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(54) Cleasing bar comprising a wax composition

(57) This invention concerns a cleansing bar, which contains a wax composition, which composition comprises specific wax components. The invention further concerns the manufacture and use of such products.

EP 1 552 817 A1

Description

Field of the Invention

[0001] This invention concerns a cleansing bar, which contains a wax composition, which composition comprises specific wax components. The invention further concerns the manufacture and use of such products.

Background of the Invention

[0002] Since ages, soaps have been used in skin cleansing, usually under the form of soap bars. Although liquid soaps have gained increased interest, soap bars still are produced and used in very large numbers. Traditional soaps are composed of the alkali metal salts of fatty acids and are made by saponification of natural fats with alkali metal bases. Ideally soaps, as any cleanser, should be mild, lack irritation, cause no defatting or overdrying of the skin and provide sufficient quantities of good quality lather. To improve the performance of soap, additives have been added such as superfatting agents to deal with excess defatting, moisturizers such as glycerine and free fatty acids to increase mildness and skin softness. Also other additives have been added, such as triglycerides.

[0003] Soaps based partially or entirely on synthetic surfactants, usually referred to as 'combo bars' and 'syndet bars', have been developed having increased mildness but usually were less efficient in lather performance.

[0004] An important factor in cleansing is the fact that a number of soils are water-compatible and therefore more easily removed by water-based formulations, whereas others are lipid-compatible and therefore adequately removed by lipid or oil based formulations. A complete and effective removal of soils therefore requires the presence of as well water as oil-based components.

[0005] Although cleansing bars and in particular soap bars have been improved in terms of mildness and lathering properties, there still is room for improvement. Because of their frequent use and especially in combination with hard water, cleansing bars often leave the skin dry, with a rough texture, defatted and irritated. Providing a cleansing bar that not only effectively cleanses the skin but at the same time has skin-caring properties would be an attractive goal to achieve.

[0006] Although existing cleansing bars are effective in cleansing and are mild, there is still room for further improvement in particular as regards the mildness aspect. Hence there is a need for cleansing bars that are effective in cleansing both water and oil-compatible soils while being mild. It would further be desirable to provide cleansing bars that have a dual function, i.e. cleansing and caring. There is a need for cleansing bars that produce abundant, stable, and high quality lather, and that are very mild to the skin and in particular to the area of the eyes. There is a further need for cleansing bars that effectively deliver caring components such as moisturizing agents or active ingredients to the skin of the user during the wash.

[0007] US application No. 2003/0199405 discloses multi-phase toilet articles wherein the phases are separated by a membrane which is at least partially water-soluble. US-5,496,493 relates to cleansing bars that contain small sized solid wax particles. WO-97/22684 describes framed or pour-moulded soap bars containing paraffin wax.

[0008] The cleansing bars of the present invention containing both surfactants and a specific wax composition are effective and mild cleansers and have a dual cleansing and caring function.

Summary of the Invention

[0009] This invention relates to a cleansing bar that comprises surfactants and a wax, wherein the wax comprises at least one wax component selected from dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarboxylic acids or hydroxy fatty alcohols, or mixtures thereof.

[0010] In preferred embodiments, there is provided a cleansing bar that comprises:

(a) one or more surfactants;
(b) one or more waxes selected from dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarboxylic acids or hydroxy fatty alcohols or mixtures thereof;
(c) one or more active ingredients.

[0011] More specifically, this invention relates to a cleansing bar that comprises

(a) from 25% to 95% of one or more surfactants;
(b) from 1% to 50% of a one or more waxes, wherein the waxes comprise at least one wax component selected from dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarboxylic acids or hydroxy fatty alcohols, or mixtures thereof;
(c) from 0 - 5% of one or more active ingredients.

[0012] The wax preferably has a low water content, in particular lower than 10%. The wax may contain one or more active ingredients.

[0013] In certain embodiments, the wax in the cleansing bars of this invention is present as a wax phase. The wax phase is separated from the other phase or phases in the cleansing bar. The other phase or phases contain the surfactants.

[0014] In one type of embodiments the cleansing bar is a soap bar, in another type of embodiments the cleansing bar is a syndet bar.

[0015] In a further aspect there is provided a method of manufacturing a cleansing bar as described herein, said method comprising mixing a wax phase with surfactants.

[0016] In still a further aspect there is provided the use of a cleansing bar as described herein as a cleansing tool, in particular in personal care applications. In another aspect the invention concerns the use of a cleansing bar as described herein for combined cleansing and application of active substances.

Detailed Description of the Invention

[0017] As used herein any % is weight by weight (w/w), depending on the context, relative to the total weight of the cleansing bar, of a phase or of the wax, or any other composition in relation of which the % is used.

[0018] The cleansing bars in accordance with the present invention may take any of the shapes used in cleansing bars, e.g. rectangular, ellipsoidal, spherical, also including special shapes such as animals, flowers, etc.

[0019] The cleansing bars can be used as such or can be partially or completely wrapped in a woven or non-woven, mono-layer or multi-layer material, closed or apertured. The wrapping material may be made of the same or different materials, which may have different properties. For example, one part may be soft while another part is rougher. The latter part can be abrasive, it can be used for rubbing or scouring.

[0020] Optionally, the wrapping material may contain an aqueous phase or a wax phase or both.

[0021] The bar may have a non water-dissolvable part, e.g. in the center portion of the bar. This part may also be used to fix the bar, e.g. to fix it to a holder or to the wall.

[0022] The bar may be apertured, having small cavities which may hold particular ingredients.

[0023] The wax in the cleansing bars is selected such that the bar slowly melts, decomposes or dissolves during use, e.g. by body heat or by any other external factor, e.g. warm water.

[0024] The cleansing bars of the invention may consist of one phase, or several phases, e.g. two, three, four or more phases. There can be several types of phases.

[0025] One type of phase is a phase of waxy consistency comprising part or all of the particular wax materials specified above, hereinafter referred to as 'wax phase'.

[0026] Another type of phase is a phase that contains the surfactants but no wax, hereinafter referred to as 'surfactant phase'.

[0027] Still another type of phase is a phase that contains surfactants as well as waxes, hereinafter referred to as 'wax/surfactant phase'.

[0028] The cleansing bars of the invention may have one or several of each of the above-mentioned phases. One type of embodiments are cleansing bars with one or more wax/surfactant phases. Other embodiments have one or more surfactant phases and one or more wax phases. Still other embodiments have one or more wax/surfactant phases and one or more wax phases. Still other embodiments have one or more wax/surfactant phases and one or more surfactant phases.

[0029] In one embodiment, the cleansing bars of the invention may be completely transparent, in that instance having one transparent phase. In another embodiment, the cleansing bars are partially transparent, in that instance one or more of the phases are transparent. Certain embodiments are cleansing bars with one or more transparent phases in combination with one or more opaque phases, e.g. a two phase bar as described in EP-A-545,716. Preferably the transparent phase is a surfactant phase.

[0030] Transparent or translucent cleansing bars, or cleansing bars with transparent phases can be obtained by art-known methods. Transparency is based on reducing crystallinity of the soap components by adding components such as castor oil (as described in US-2,820,768) or lower alkanols, that dissolve the fatty acid salts, or by using branched chain fatty acids (as described in US-3,793,214). They can for example be obtained by the methods described in WO-98/00505.

Surfactants

[0031] The cleansing bars of the invention contain surfactants which usually are anionic surfactants such as soaps and other surfactants. The cleansing bars comprise 'soap bars' which are free of or contain marginal amounts of synthetic surfactants, 'combination bars' or 'combo' bars which contain soaps and synthetic surfactants and 'syndet bars'

which are free of or contain marginal amounts of soaps.

[0032] As used herein the term 'soaps' has the meaning traditionally used in the art, referring to salts of fatty acids in particular alkali metal, alkaline earth metal or alkanolamine salts of fatty acids containing from 6 to 22 carbon atoms, in particular from 12 to 18 carbon atoms including mixtures thereof. The alkali metal and alkaline earth metal salts preferably comprise sodium, potassium and magnesium salts, and the alkanolamine salts preferably comprise mono-, di- or triethanolamine salts. The soaps may be derived from pure fatty acids or from fatty acid mixtures derived from naturally occurring oils such as coconut oil, palm oil, rapeseed oil, peanut oil, tallow and olive oil, including their hydrogenated derivatives. Also included are soaps derived from different oils.

[0033] Soaps may be made by saponificaton of natural fats and oils with an alkali metal hydroxide using procedures well known in the art. Alternatively, soaps may be made by neutralizing fatty acids, for example by neutralizing lauric (C 12), myristic (C 14), palmitic (C 16), or stearic (C 18) acids with an alkali metal hydroxide or carbonate.

[0034] The cleansing bars may contain synthetic surfactants such as anionic, cationic, non-ionic or amphoteric surfactants. Preferably the cleansing bars contain anionic surfactants, optionally in mixture with one or more of the other types of surfactants, which are added as co-surfactants.

[0035] Anionic surfactants are characterized by a water solubilizing anionic group such as a carboxylate-, sulfate-, sulfonate- or phosphate-group and a lipophilic rest. Particular anionic surfactants are alkyl sulfonates, alkyl sulfates, alkylaryl sulfonates, alkyl polyethoxy ether sulfonates, alkyl ethersulfates, alkyl ethercarboxylates, acyl isethionates, acyl sarcosinates, acyl taurines alkylphenol polyethoxy ether sulfonates, mono- or diesters of sulfosuccinic acid, acyl glutamates, and salts thereof, in particular the alkali-, ammonium- or alkanol ammonium salts thereof. The alkyl group may contain 10 to 30 and in particular 12 to 18 carbon atoms, and the polyethoxylated anionic emulsifiers may contain from 1 to 50 and in particular 2 to 25 ethylene oxide units.

[0036] Zwitterionic surfactants contain at least a quaternary ammonium group and at least a carboxyl or sulfonyl group. Particularly useful zwitterionic surfactants are the so-called betaines such as N-alkyl-N,N-dimethyl ammonium glycinate, for example coco-alkyl dimethylammonium glycinate, N-acyl-aminopropyl-N,N-dimethylammonium glycinate, for example coco-acyl aminopropyl dimethylammonium glycinate, and 2-alkyl-3-carboxylmethyl-3-hydroxyethyl-imidazoline, each having 8 to 18 C-atoms in the alkyl- or acyl group as well as coco-acyl aminoethyl hydroxyethyl carboxymethyl glycinate. A preferred zwitterionic surfactant is the fatty acid amide-derivative known by its INCI-name cocamidopropyl betaine.

[0037] Ampholytic surfactants contain, beside a C_8-C_{18}-alkyl- or acyl group, at least a free amino group and at least a -COOH- or -SO_3H- group and are able to form internal salts. Examples of ampholytic surfactants are N-alkyl glycines, N-alkyl propionic acids, N-alkyl amino buteric acids, N-alkyl iminodipropionic acids, N-hydroxyethyl-N-alkyl amidopropyl glycines, N-alkyl taurine, N-alkyl sarcosine, 2-alkylaminopropionic acids and alkylamino acetic acids with in each alkyl group about 8 to 18 C-atoms.

[0038] Most preferred ampholytic surfactants are N-coco-alkyl aminopropionate coco-acyl amino ethylamino propionate and C_{12-18}-acylsarcosine.

[0039] Cationic surfactants comprise ammonium halogenides, in particular chlorides and bromides, e.g. alkyl trimethylammonium chloride, dialkyl dimethylammonium chloride and trialkyl methylammonium chloride, such as cetyl trimethylammonium chloride, stearyl trimethylammonium chloride, distearyl dimethylammonium chloride, lauryl dimethylammonium chloride, lauryl dimethylbenzylammonium chloride and tricetyl methylammonium chloride. Additional cationic surfactants are the quaternary esters with good biological degradability, such as, for example, dialkylammonium methosulfates and methylhydroxyalkyl dialkyloxy alkylammonium methosulfates. The surfactants can be present in various concentrations, in particular they are present in concentrations which are in the range of from 25 to 95%, more in particular from 50 to 90%, more in particular from 65 to 85% (any % being w/w relative to the total weight of the cleansing bar).

The Wax

[0040] The wax can be formulated continuously into the cleansing bar, i.e. it can be formulated into a wax/surfactant phase, as specified above. The wax can be formulated into a wax phase that is incorporated in the cleansing bar. The wax is formulated such that it is insoluble or essentially insoluble in aqueous media. However, in some embodiments the wax be mixable or soluble into an aqueous phase to a limited extent.

[0041] The wax usually is solid but it can also be semi-solid. Semi-solidness can occur when the wax is in a transition stage between solid state and liquid state such as in a melting process, but can also be due to decreased viscosity of the material that makes up the wax phase. Semi-solidness in particular occurs with materials that have no sharp melting point, i.e. materials that have a melting range. It is also present in glass-like materials, e.g. in polymers that occur as in a glass-like state.

[0042] As used herein the term 'melting range' refers to a temperature range that starts from the temperature at which a substance or composition loses its solid consistency up to the temperature where it becomes completely liquid.

A melting range is considered to be within a defined temperature range when it overlaps with that defined temperature range, or should be considered to be above a specified temperature when the range is above said temperature. As used herein 'ambient temperature' refers to a temperature that is in the range of about 20 to about 25 °C.

[0043] In particular the wax has a melting point or a melting range above room temperature, such as above 25 °C, for example in the range of 25 to 100°C, in particular in the range of 30 to 75°C, more in particular of 30 to 45°C, preferably in the range of 35 and 40°C. In one embodiment the melting temperature or melting range is above human body temperature. Most preferably the melting temperature or melting range approximates or is equal to human body temperature.

[0044] In some embodiments of this invention the wax has a relatively higher melting point or range. The melting point or range may for example be higher than body temperature, e.g. higher than 40 °C, or higher than 45 °C. Upon application of such products, a more intense interaction between the wax phase and water may be required or the application of higher temperatures to promote the interaction. In the latter instance the consumer may, for example, be required to contact the cleansing bar first with hot water and then apply it.

[0045] When the wax is incorporated as a wax phase, it can change to another state after incorporation in the cleansing bar, or upon usage by the consumer. The wax phase may be incorporated in the cleansing bar as a liquid whereafter it becomes semi-solid or solid. Or the wax phase may become semi-solid during usage by the consumer. This change of state may be induced by physical factors, such as temperature or pressure, but may also be induced by chemical factors, such as particular components that cause a polymerization reaction, or by a photochemical reaction.

[0046] Particularly preferred are waxes which are solid at room temperature and which have a penetration value of 0.2 - 4 mm (measured with: Petrotester PNR 10, Mikrokonus, 5 sec., temp 20 °C).

[0047] The wax can be present in the cleansing bar in various concentrations, in particular it is present in concentrations which are in the range of from 1 to 50%, more in particular from 5 to 35%, more in particular from 8 to 20% (any % being w/w relative to the total weight of the cleansing bar).

[0048] The water content of the wax by preference is low, in particular less than 10%, preferably less than 6%, more preferably less than 3%, percentages being w/w relative to the total weight of the wax composition or where appropriate, the wax phase. In a particular embodiment the wax is water-free, and will be such that it is not decomposed by water or any aqueous phase. As used herein, 'water-free' means that the phase is composed of materials of low water content to which no water has been added.

[0049] In a particular aspect of this invention there are provided products as specified herein wherein the wax essentially consists of one or more dialkyl(ene) ethers or -carbonates, dicarboxylic acids or hydroxy fatty alcohols, including mixtures thereof.

[0050] The dialkyl(ene) ethers or -carbonates, dicarboxylic acids or hydroxy fatty alcohols, including mixtures thereof, in the composition of the wax allow to optimize the properties of the wax, in particular its sensorial properties, i.e. the products as well as the skin after the products have been applied have a less greasier feel and also a less dry skin-feel, while having excellent skin-caring properties.

Dialkyl(ene) ethers

[0051] The dialkyl(ene) ethers are symmetric or asymmetric, straight or branch chained, saturated or unsaturated. Preferred are waxy, saturated C_{16}-C_{30}-dialkylethers, in particular C_{16}-C_{24}-dialkylethers. More preferred are C_{16}-C_{20}-dialkylethers, and particularly preferred are distearylethers and dibehenylethers. Dialkylethers of shorter chain length can also be used such as, for example, di-n-octylether, di-(2-ethylhexyl)-ether, laurylmethylether or octylbutylether, didodecylether. When using the latter components, the complete composition of the wax phase preferably is solid or semi-solid, having the desired melting point as specified herein.

[0052] These ethers can be obtained from the appropriate fatty alcohols in the presence of an acid catalyst following art-known procedures. Typical examples are the products that are obtained by the etherification of capron alcohol, capryl alcohol, 2-ethylhexyl alcohol, caprin alcohol, lauryl alcohol, myristyl alcohol, cetyl alcohol, palmoleyl alcohol, stearyl alcohol, isostearyl alcohol, elaidyl alcohol, petroselinyl alcohol, linolyl alcohol, linolenyl alcohol, oleyl alcohol, ricinus alcohol, elaeostearyl alcohol, arachidyl alcohol, gadoleylalcohol, behenyl alcohol, erucyl alcohol and brassidyl alcohol, Guerbet alcohols, as well as mixtures thereof, which, for example, are obtained by high pressure hydrogenation of technical mixtures of the methyl esters derived from fats or oils.

[0053] Of particular interest are the dialkyl(ene) ethers that are solid at 25 °C.

Dialkyl(ene) carbonates

[0054] The dialkyl(ene) carbonates are symmetric or asymmetric, straight or branch chained, saturated or unsaturated. Preferred dialkyl(ene) carbonates are waxy, linear or branch chained, saturated or unsaturated C_{14}-C_{30}-dialkyl (ene) carbonates. More preferred are C_{16}-C_{24}-dialkyl carbonates and amongst these the saturated linear C_{16}-C_{22}-

dialkyl carbonates. Particularly preferred is distearyl carbonate. Also liquid dialkyl(ene) carbonates, such as, for example, dihexyl-, dioctyl-, di-(2-ethylhexyl)- or dioleylcarbonate, can be used. When using the latter components, the complete composition preferably is solid or semi-solid, having the desired melting point as specified herein.

[0055] These dialkyl(ene) carbonates can be obtained by re-esterification of dimethyl- or diethylcarbonates with the corresponding hydroxy compounds following art-known procedures. Typical examples of dialkyl(ene) carbonates are re-esterification products of dimethyl- and/or diethylcarbonate with capron alcohol, capryl alcohol, 2-ethylhexyl alcohol, caprin alcohol, lauryl alcohol, myristyl alcohol, cetyl alcohol, palmoleyl alcohol, stearyl alcohol, isostearyl alcohol, elaidyl alcohol, petroselinyl alcohol, linolyl alcohol, linolenyl alcohol, oleyl alcohol, ricinus alcohol, elaeostearyl alcohol, arachidyl alcohol, gadoleyl alcohol, behenyl alcohol, erucyl alcohol and brassidyl alcohol, Guerbet alcohols, as well as technical mixtures thereof, that can be obtained by hydratation of methyl esters derived from suitable oils or fats or oil or fat fractions.

[0056] Of particular interest are those dialkyl(ene) carbonates that are solid at 25 °C.

Dicarboxylic acids

[0057] Dicarboxylic acids that can be used are, for example, C_9-C_{34}-dicarbonic acids. Of particular interest are those discarboxylic acids that are solid at 25 °C.

Hydroxy fatty alcohols

[0058] The hydroxy fatty alcohols for use in the said preferred or particularly preferred waxy compositions are saturated or unsaturated, straight chain or branched. Preferred are C_{12}-C_{30}-hydroxy fatty alcohols, at which the position of the hydroxy-substituent depends upon the synthesis route and the starting materials that have been used. Included are, for example, 1,10-decanediol, 1,2-hexadecanediol, 12-hydroxystearyl alcohol or hydroxy-Guerbet alcohols. Preferred are those hydroxy fatty alcohols that are solid at 25 °C, although liquid analogs can also be used. When using the latter components, the complete composition preferably is solid or semi-solid having the desired melting point as specified herein. Particularly preferred is 12-hydroxystearyl alcohol.

[0059] The total amount of one or more of the dialkyl ethers, dialkyl carbonates, dicarbonic acids and the hydroxy-alcohols present in the wax phase, relative to the total weight amount of the wax phase, is in the range of 1 - 30 % (w/w), preferably of 1 - 20 % (w/w) more preferably from 1 -10 % (w/w).

Additional Waxes

[0060] The wax may comprise additional wax components. As used herein, the term 'wax' refers to oil-soluble materials that have a waxy consistency and have a melting point or melting range of above ambient temperature, in particular above 25 °C. Waxes are materials that have a solid to semi-solid (creamy) consistency, are crystalline or not, being of relatively low viscosity a little above their liquefying point. Waxes can be composed of one or more components, synthetic as well as natural, and can in principle be composed of or comprise any oil soluble material having a waxy consistency, including mixtures thereof.

[0061] Waxes also encompass materials such as oils or fats of natural or synthetic origin, and waxy components such as higher alkanols (in particular fatty alcohols), carboxylic acids (in particular fatty acids), and the like components.

[0062] Natural waxes comprise waxes from vegetal origin, such as purcelline, shea butter, cocoa butter, Japan wax, esparto gras wax, cork wax, Guaruma wax, rice shoot wax, Ouricury wax, montan wax, sunflower wax, ceresine wax, sugar cane wax, carnauba wax, candelilla wax, lanolin, fruit-derived waxes, such as orange wax, lemon wax, grapefruit wax and bayberry wax, and the like, and of animal origin such as beeswax, woolwax, spermateci and bear fat, shellac wax, and the like. Natural waxes further comprise mineral waxes such as ceresine and ozokerite waxes. Synthetic waxes comprise petroleum-based waxes such as paraffin, vaseline, petrolatum, micro wax. Further synthetic waxes are polyalkylene and polyethyleneglycol waxes, e.g. polyethylene wax; waxes based on chlorinated naphtalenes such as 'Halowax', synthetic hydrocarbon waxes, and the like, including mixtures thereof. Further waxes are chemically modified waxes, in particular hardened or hydrogenated waxes such as, for example, Montan-ester waxes, Sasol waxes and hydrogenated jojoba waxes. Preferred among the natural waxes are waxes from vegetal origin.

[0063] Other wax components can be certain fats (including mono-, di- and triglycerides and fatty acid alkylesters), fatty alcohols, fatty acids, including substituted fatty acids (in particular hydroxy substituted fatty acids, for example, 12-hydroxystearic acid), dialkyl(ene)ethers, dialkyl(ene) carbonates, dicarboxylic acids (in particular the $C_{1\text{-}6}$-C_{40}-dialkylesters of dicarboxylic acids, e.g. the C_{16}-C_{40}-alkyl stearates, C_{18}-C_{38}-alkylhydroxystearyl stearates or C_{20}-C_{40}-alkyl erucates) and hydroxy fatty alcohols that comply with the definition of 'wax' as outlined herein. Any of these components may contain homologous components that are liquid, as long as the total composition has a waxy consistency. For example, waxy fats may contain oils, waxy fatty alcohols may contain liquid fatty alcohols, etc., in such

amount that the total composition has a waxy consistency and in particular has the melting point or melting range specified above.

[0064] Still further wax components are selected from the group of aromatic carbonic acids, tricarboxylic acids, or from the group of lactides of long-chained hydroxycarbonic acids. Myristyl lactate is particularly attractive for skin treatment, because of its binding capacity to the skin.

[0065] Further wax components that can be used are C_{30}-C_{50}-alkyl bees wax; tri-C_{16}-C_{40}-alkyl citrates, e.g. tristearyl citrate, triisostearyl citrate, trilauryl citrate; ethyleneglycol difatty acid esters, in particular the ethylene glycol di-C_{12}-C_{30}-fatty acid esters, e.g.ethyleneglycol dipalmitate, ethyleneglycol distearate, ethyleneglycol di(12-hydroxystearate). As further useful components there can be mentioned silicone waxes.

[0066] The wax phase may also comprise mixtures of waxes and oils.

[0067] The total amount of additional waxes in the wax may be up to 50 %, in particular up to 30 %, more in particular up to 20 %, w/w of the total amount of components making up the wax.

[0068] The wax may also contain liquid dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarbonic acids or hydroxy fatty alcohols, however preferably in such amounts that the melting point or range of the total composition of the wax phase does not exceed 25 °C, and more preferably is within the temperature ranges mentioned above.

Oils and Fats

[0069] The wax phase may further contain fats and oils, the latter to such an extent that the wax phase remains solid or semi-solid at ambient temperature, in particular at 25 °C.

[0070] Oils or fats which can be used in the wax phase comprise natural oils or fats, or natural oil or fat derivatives, in particular of vegetable origin. Examples are almond oil, soybean oil, sunflower oil, safflower oil, corn oil, kernel oil, canola oil, borage oil, evening primrose oil, grapeseed oil, wheat germ oil, avocado oil, jojoba oil, sesame oil, walnut oil, linseed oil, palm oil, olive oil, macadamia oil, castor oil, rapeseed oil, peanut oil, coconut oil, turnip seed oil, and the hardened derivatives thereof. The latter are obtained by hydrogenation of fats or oils. Preferred are hardened oils or fats from vegetal origin, e.g. hardened castor oil, peanut oil, soya oil, turnip seed oil, cotton seed oil, sunflower oil, palm oil, kernel oil, linseed oil, almond oil, corn oil, olive oil, sesame oil, cocoa butter, shea butter and coconut oil.

[0071] Said hardened fats or oils have the additional advantage of increasing the consistency of the wax phase.

[0072] The wax phase may further comprise fatty components isolated from these natural oils, i.e. mono-, di- or triglycerides (also referred to as glycerides) or mixtures thereof, or the latter components having been prepared chemically. These mono-, di- or trigycerides are esters of glycerines with fatty acids or fatty acid mixtures, for example technical mixtures obtained by hydrolysis from fractions of oils or fats, or by fractioning fatty acid mixtures after hydrolysis. The triglycerides may also be obtained chemically by synthesis.

[0073] The fatty acids in said glycerides may be saturated or unsaturated, straight or branch chained, substituted or unsubstituted. Preferred glycerides are those glycerine esters derived from fatty acids, either saturated or unsaturated, having from 10 to 60, in particular from 12 to 36, more particularly from 12 to 24, preferably from 16 to 20 carbon atoms. Preferred such fatty acids are, for example, palmitic, palmic, oleic, lauric, myristic, stearic, hydroxystearic, behenic acid, or mixtures thereof. Within this group the glycerides derived from saturated fatty acids are of particular interest. Of further interest are the triglycerides such as glyceryl tristearate, also referred to as stearin, glycerine tribehenate, glycerine tripalmitate, glycerine trilaurate, glycerine trioleate, glycerine trimyristate.

[0074] The amount of said glycerides in the wax may be up to 50%, in particular up to 40%, further in particular up to 30% or up to 20% (w/w), relative to the total quantity of the wax.

[0075] Mixed esters as well as mixtures of mono-, di- and triglycerides are of particular interest because of their low propensity to crystallize and their capacity to improve the consistency of the formulation making up the wax phase.

[0076] The wax may also comprise alkyl esters of fatty acids, wherein the alkyl group has from 1 to 30 carbon atoms, preferably from 12 to 24 carbon atoms. The fatty acids in said alkyl esters in particular are C_{12-30} fatty acids, more in particular C_{12-20} fatty acids. The alkyl groups in said esters preferably are derived from fatty alcohols as well as of mixtures thereof, which, for example, are obtained by high pressure hydrogenation of technical mixtures of the methyl esters derived from fats or oils.

[0077] Preferred are the alkyl esters of C_{16-24} fatty acids, more preferably from C_{16-18} fatty acids, and C_{1-30} fatty alcohols, preferably C_{8-24} fatty alcohols, more preferably C_{12-20} fatty alcohols.

[0078] Of particular interest in this regard are, e.g. stearyl stearate, palmityl stearate, stearyl behenate, cetyl stearate, cetyl behenate, cetyl palmitate, cetearyl behenate, behenyl behenate, stearyl heptanoate, stearyl octanoate, myristyl myristate, myristyl isostearate, myristyl oleate, cetyl isostearate, cetyl oleate, stearyl isostearate, stearyl oleate, isostearyl myristate, isostearyl palmitate, isostearyl stearate, isostearyl isostearate, isostearyl oleate, isostearyl behenate, isostearyl oleate, oleyl myristate, oleyl palmitate, oleyl stearate, oleyl isostearate, oleyl oleate, oleyl behenate, oleyl erucate, behenyl isostearate, behenyl oleate, erucyl isostearate.

[0079] Of further interest are esters of linear C_6-C_{22}-fatty acids with branched alcohols, in particular 2-ethylhexanol,

esters of branched C_6-C_{22}-fatty acids with linear alcohols, esters of C_{18}-C_{38}-alkylhydroxycarbonic acids with linear or branched C_6-C_{22}-fatty alcohols, esters of linear and/or branched fatty acids with poly-alcohols (e.g. propylene glycol, dimerdiol or trimertriol) and/or Guerbet alcohols, as well as esters of C_6-C_{22}-fatty alcohols and/or Guerbet alcohols with aromatic carbonic acids, in particular benzoic acid, esters of C_2-C_{12}-dicarbonic acids with linear or branched C_1-C_{22} -alcohols (e.g. dioctyl malate) or C_2-C_{10}-polyoles having 2 to 6 hydroxy groups.

[0080] The wax phase may also comprise oily components, i.e. non water-mixable components that are liquid at 20 °C. These can be e.g. glycerides, hydrocarbons, silicon oils, ester oils and the like, as well as mixtures thereof. The total quantity of these oily components in the total composition of the wax phase preferably will be such that the wax phase is solid at room temperature, or that it has a melting point or range that is as specified hereinabove. The oily components will typically be present in quantities of less than 40 % (w/w), in particular less than 20 % (w/w), or further in particular 1- 15 % (w/w), more in particular from 2 - 10 % (w/w) relative to the total weight of the wax phase.

[0081] The oily components can be any of the oils mentioned hereinabove as 'oils and fats', more in particular the mono-, di- and triglycerides mentioned hereinabove, that are liquid at 20 °C. The oily components can further be fatty acids and fatty alcohols, described in this specification, that are liquid at 20 °C.

[0082] Further oily components which can be used in the wax phase comprise silicone oils, mineral and paraffin oils and synthetic oils, either aliphatic or aromatic, as well as mixtures thereof. Examples of such oils are squalane, squalene, isohexadecane, isoeicosane, polydecene, and also oils of the group of dialkylcyclohexanes.

[0083] Silicone oils can be volatile or not, and include cyclic silicones, dialkyl- or alkylarylsiloxanes, e.g., cyclomethicone, dimethyl polysiloxane (dimethicone) and methylphenyl polysiloxane, as well as the alkoxylated and quaternized derivatives thereof. Appropriate non-volatile silicone oils are e.g. longer chain polyalkylsiloxanes and polyalkylarylsiloxanes, and also polyethersiloxane-copolymers.

Fatty alcohols

[0084] The wax may also comprise fatty alcohols. Fatty alcohols that can be used are, for example, C_{12}-C_{50}-fatty alcohols, in particular the C_{12}-C_{24}-fatty alcohols, that are derived from natural fats, oils or waxes such as, for example, myristyl alcohol, 1-pentadecanol, cetylalcohol, 1-heptadecanol, stearyl alcohol, 1-nonadecanol, arachidyl alcohol, 1-heneicosanol, behenyl alcohol, brassidyl alcohol, lignoceryl alcohol, ceryl alcohol or myricyl alcohol as well as Guerbet alcohols. Preferred for use in the present invention are saturated, straight or branch chained fatty alcohols. However also unsaturated, straight or branch chained alcohols can be used, optionally in a mixture with saturated alcohols. Preferably the alcohols will be selected such that the melting point of the mixture is as referred to hereinabove and, more in particular, is in the range of 32 to 40 °C.

[0085] Mixtures of fatty alcohols can evidently also be used, including fatty alcohol fractions obtained from the reduction of the corresponding fatty acid fractions derived from the fats or oils mentioned above.

[0086] The total amount of fatty alcohols in the wax phase may vary and depends on the desired properties of the wax phase. The total amount of the fatty alcohols present in the wax phase may be in the range of 0 - 40 % (w/w), preferably of 1 - 30 % (w/w), more preferably of 1 - 20 % (w/w), still more preferably from 1 -10 % (w/w) of the total amount of components making up the wax phase.

Fatty acids

[0087] The wax may also contain C_{14}-C_{40}-fatty acids, including mixtures thereof. Of particular interest are the C_{16}-C_{30}-fatty acids. These comprise, for example, myristic-, pentadecanoic-, palmitic-, margaric-, stearic-, nonadecanoic-, arachic-, behenic-, lignoceric-, cerotic-, melissic-, erucaic-, elaeostearic-, oleic-, lonolenic-, lauric acid as well as substituted fatty acids, e.g. hydroxy-substituted fatty acids such as, for example, 12-hydroxystearic acid, and the amides or monoethanolamides of these fatty acids.

[0088] The total amount of the C_{14}-C_{40}-fatty acids present in the wax phase, relative to the total weight amount of the wax phase, may be in the range of 0 - 30 % (w/w), preferably of 1 - 20 % (w/w), more preferably from 1 -10 % (w/w) relative to the total amount of components making up the wax phase.

Further components

[0089] The wax may contain further components, which may be of waxy nature or otherwise. The use of these further components allows to influence the sensorial properties as well as the stability of the compositions, to influence consistency, feel and appearance.

[0090] These components will generally be insoluble or poorly soluble in water. Water-soluble components can also be included, typically in combination with a solubilizing or emulsifying agent and some water.

[0091] Examples of further components are superfatting agents, thickeners, polymers, active ingredients, film forming

agents, UV-filters, anti-oxidants, hydrotropic agents, preservatives, insect repellents, self-tanning agents, solubilizers, perfume oils, dyestuffs, consistency agents, and the like.

[0092] Appropriate cationic polymers are for example cationic cellulose derivatives , e.g. quaternized hydroxyethyl cellulose (commercialized under the trade name Polymer JR 400® by Amerchol), cationic starches, copolymers of diallylammonium salts and acrylamides, quaternized vinylpyrrolidone/vinylimidazole-polymers (for example Luviquat® of BASF), condensation products of polyglycols and amines, quaternized collagen polypeptides, such as, for example, lauryldimonium hydroxypropyl hydrolyzed collagen (Lamequat® L/Grünau), quaternized wheat polypeptides, polyethylene imines, cationic silicone polymers, e.g. amodimethicone, copolymers of adipinic acid and dimethylaminohydroxypropyldiethylenetriamine (Cartaretine® /Sandoz), copolymers of acryl acid with dimethyldiallylammonium-chloride (Merquat® 550/Chemviron), polyaminopolyamides, cationic chitine derivatives such as, for example, quaternized chitosans, optionally dispersed in microcristalline form, condensation products derived from dihalogenalkylenes, such as, for example dibromobutane with bis-dialkylamines, e.g. bis-dimethylamino-1,3-propane, cationic guar-gum derivatives, such as, for example, Jaguar® CBS, Jaguar® C-17, Jaguar® C-16 from Celanese, quaternized ammonium salt-polymers, e.g. Mirapol® A-15, Mirapol® AD-1, Mirapol® AZ-1 from Miranol.

[0093] Anionic, zwitterionic, amphoteric and nonionic polymers that can be used are, for example, vinylacetate/crotonic acid-copolymers, vinylpyrrolidone/vinylacrylate-copolymers, vinylacetate/butylmaleate/ isobornylacrylate-copolymers, methylvinylether/maleic acid anhydride-copolymers and their esters, which are not cross-linked and with polyoles linked polyacrylacids which are cross-linked, acrylamidopropyltrimethylammonium chloride/ acrylate-copolymers, octylacrylamide/methylmethacrylate/tert.butylaminoethylmethacrylate/2-hydroxypropylmethacrylate-copolymers, polyvinylpyrrolidone, vinylpyrrolidone/vinylacetate-copolymers, vinylpyrrolidone/ dimethylaminoethylmethacrylate/vinyl caprolactam-terpolymers as well as optionally derivatized cellulose ethers and silicones.

[0094] The wax phase may further contain suitable anti-oxidants, and powders or powdered ingredients.

[0095] The wax phase may further contain disintegrating agents, which are agents that cause a disintegration of the physical integrity of the wax phase. The disintegration may be in parts or on the whole of the wax phase. The disintegrating agents may be mixed or dissolved into parts or the whole of the wax phase. Suitable disintegrating agents are agents that are subject to physical or chemical interactions, either by auto-interaction or by interaction between two agents. This results in a physical or chemical interaction with the wax phase. One type of disintegrating agents are those that release a gas, e.g. by decomposition or by chemical reaction between two components. An example of a disintegrating agent is a solid mixture of a bicarbonate and an acid such as sodium or potassium bicarbonate with a suitable organic acid, e.g. citric acid. Upon contact with water, the disintegrating components will interact and liberate carbon dioxide which physically alters the wax. This may positively influence the transfer to the skin of certain ingredients, e.g. active ingredients.

Preferred compositions

[0096] In particularly preferred embodiments, the products of this invention have a wax containing:

(a) at least 1 - 50 % (w/w), in particular at least 1 - 30 % of an oily or waxy component selected from C_{14}-C_{30}-dialkyl ethers, C_{14}-C_{30}-dialkyl carbonates, C_4-C_{34}-dicarbonic acids or C_{12}-C_{30}-hydroxyfatty alcohols or mixtures thereof
(b) 0 - 5 % (w/w), in particular from 0.1 - 5 % (w/w) of at least one active ingredient
(c) 0 - 10 % (w/w), in particular from 1 - 10 % (w/w), of at least one oil
(d) 0 - 10 % (w/w), and in particular from 0.1 - 10 % (w/w) of at least one emulsifier
(e) 0 - 90 % (w/w), and in particular from 5 - 90 % (w/w), of further wax components
(f) 0 - 5 % (w/w), and in particular 0 - 3 % (w/w), water.

Additional ingredients in the cleansing bars

[0097] Apart from the surfactants and waxes, the cleansing bars may contain additional ingredients. Any of the phases may contain these additional ingredients. These can be any of the ingredients mentioned as further components for the wax or the wax phase. Where the cleansing bar has one or more surfactant/wax phases, the further components that may be present in the wax become dispersed in the surfactant/wax phase to form a mixture with any other ingredients already present or added afterwards in the surfactant/wax phase.

[0098] Specific additional ingredients are salts such as sodium chloride, polyoles, in particular glycerine, sequestering agents such as disodium phosphate, pentasodium petetate, EDTA and its salts, emollients, in particular lipid emollients, perfumes, dyes. Also water can be present in any of the phases. These specific additional ingredients by preference are present in the surfactant phase or in the wax/surfactant phase.

[0099] Any of the phases may contain active ingredients for application to the skin. These can be lipophilic or hy-

drophilic active ingredients. Lipophilic active ingredients by preference are incorporated in the wax or in a wax phase. However, by using suitable emulsifiers, water-soluble or hydrophilic agents can be incorporated in the wax or in a wax phase.

[0100] As used herein an 'active ingredient' is meant to comprise a compound that has a cosmetic or therapeutic effect on the skin, hair, or nails, e.g., lightening agents, darkening agents such as self-tanning agents, anti-acne agents, shine control agents, anti-microbial agents, anti-inflammatory agents, anti-aging agents, in particular anti-wrinkle agents, anti-mycotic agents, anti-parasite agents, external analgesics, sunscreens, photoprotectors, antioxidants, keratolytic agents, detergents/surfactants, moisturizers, nutrients, vitamins, energy enhancers, anti-perspiration agents, astringents, deodorants, hair removers, firming agents, anti-callous agents, and agents for hair, nail, and/or skin conditioning.

[0101] Examples of active ingredients are hydroxy acids, benzoyl peroxide, sulfur resorcinol, ascorbic acid, D-panthenol, hydroquinone, octyl methoxycinnimate, titanium dioxide, octyl salicylate, homosalate, avobenzone, polyphenolics, carotenoids, free radical scavengers, spin traps, retinoids such as retinol and retinyl palmitate, ceramides, polyunsaturated fatty acids, essential fatty acids, enzymes, enzyme inhibitors, minerals, hormones such as estrogens, steroids such as hydrocortisone, 2-dimethylaminoethanol, copper salts such as copper chloride, peptides containing copper such as Cu:Gly-His-Lys, coenzyme Q10, peptides such as those disclosed in WO-00/15188, lipoic acid, amino acids such a proline and tyrosine, vitamins, lactobionic acid, acetyl-coenzyme A, niacin, riboflavin, thiamin, ribose, electron transporters such as NADH and FADH2, and other botanical extracts such as aloe vera and soy, and derivatives and mixtures thereof. The cosmetically active agent will typically be present in the formulation of the invention in an amount of from about 0.001 % to about 20% by weight of the formulation, e.g., about 0.01% to about 10% such as about 0.1% to about 5%.

[0102] Examples of vitamins include, but are not limited to, vitamin A, vitamin Bs such as vitamin B3, vitamin B5, and vitamin B12, vitamin C, vitamin K, and vitamin E and derivatives thereof.

[0103] The active ingredients can be present, depending on the nature of the ingredients and their application, in various concentrations, but usually are present in a quantity in the range of 0.01 - 10 % (w/w), preferably from 0.1 - 7 % (w/w) and more preferably 1 -5 % (w/w), w/w expressed to the total weight of the wax phase.

Further additional ingredients

[0104] Any of the phases may contain further ingredients such as moisturizers, refatting agents, thickeners, powders, biogenic actives, deodorants, film formers, UV sunscreen filters, anti-oxidants, hydrotropes, preservatives, insect repellents, self tanning agents, solubilizers, perfumes, dyes, pigments, and the like.

Moisturizers

[0105] Any of the phases can further contain one or more moisturizers. These are added to improve the sensorial properties as well as to regulate skin hydration. Moisturizers may be present in quantities of 1 -20 % (w/w), preferably of 5 - 15 % (w/w), and more preferably 5 -10 % (w/w) - relative to the total amount of the wax phase.

[0106] Suitable moisturizers are a.o. amino acids, pyrrolidone carbonic acid, lactic acid and its salts, lactitol, urea and urea derivatives, ureic acid, glucosamine, creatinine, hydrolysis products of collagen, chitosan or chitosan salts/-derivatives, and in particular polyols and polyol derivatives (e.g. ethylene glycol, propylene glycol, butylene glycol, pentylene glycol, hexylene glycol, erythrite, 1,2,6-hexanetriol, polyethylene glycols such as PEG-4, PEG-6, PEG-7, PEG-8, PEG-9, PEG-10, PEG-12, PEG-14, PEG-16, PEG-18, PEG-20, PEG-135, PEG 150), sugar and sugar derivatives (a.o. fructose, glucose, maltose, maltitol, mannite, inosite, sorbite, sorbityl silandiol, sucrose, trehalose, xylose, xylit, glucuronic acid and its salts), ethoxylated sorbitol (Sorbeth-6, Sorbeth-20, Sorbeth-30, Sorbeth-40), honey and hydrogenated honey, hydrogenated starch hydrolysates, as well as mixtures of hydrogenated wheat protein, hydrolyzed milk protein, lecithin, phythantriol, hyaluronic acid and salts thereof, and PEG-20-acetate copolymers. Particularly preferred moisturizers are glycerine, diglycerine and triglycerine.

[0107] The addition of a dye has the advantage that it provides of a visible indication for the user, sending the message of particular (active) ingredients having been incorporated in the wax phase.

Emulsifiers

[0108] The wax phase in the products of the invention may further contain one or more emulsifiers which can be of the W/O type or O/W. The addition of an emulsifier allows the incorporation of hydrophilic components or agents into the wax phase.

[0109] Preferred are non-ionic emulsifiers which typically have good skin compatibility. The wax phase may contain the emulsifier(s) in an amount of 0 to 20 % (w/w), in particular of 0.1 to 15 % (w/w), more in particular of 0.1 to 10 %

(w/w), still more in particular from 0.1 to 5%, or 0.1 to 2% (w/w), relative to the total quantity of the wax phase.

[0110] Particular non-ionic emulsifiers comprise:

(1) Addition products of 2 to 50 moles of ethylene oxide and/or 0 to 20 moles propylene oxide to linear fatty alcohols having 8 to 40 C-atoms, to fatty acids with 12 to 40 C-atoms and to alkylphenols with 8 to 15 C-atoms in the alkyl rest.
(2) C_{12-18}-fatty acid mono- and -diesters of addition products of 1 to 50 moles of ethylene oxide and glycerine.
(3) Glycerine mono- and -diesters and sorbitan mono- and -diesters of saturated and unsaturated fatty acids with 6 to 22 C-atoms and their ethylene oxide addition products.
(4) Alkyl mono- and -oligoglycosides with 8 to 22 C-atoms in the alkyl rest and their ethoxylated analogs.
(5) Addition products of 7 to 60 moles of ethylene oxide to castor oil and/or hardened castor oil.
(6) Polyol- and in particular polyglycerine esters, such as e.g. polyol poly-12-hydroxystearate, polyglycerine polyricinoleate, polyglycerine diisostearate or polyglycerine dimerate. Also applicable are mixtures of compounds of several of these substance classes.
(7) Addition products of 2 to 15 moles of ethylene oxide to castor oil and/or hardened castor oil.
(8) Partial esters derived from linear, branch chained, unsaturated or saturated C_6-C_{22}-fatty acids, ricinoleic acid as well as 12-hydroxystearic acid and glycerine, polyglycerine, pentaerythrite, dipentaerythrit, sugar alcohols (e. g. sorbitol), alkylglucosides (e.g. methylglucoside, butylglucoside, laurylglucoside), as well as polyglucosides (e. g. cellulose), or mixed esters such as e.g. glyceryl stearate/citrate and glyceryl stearate/lactate.
(9) Wool wax alcohols.
(10) Polysiloxane-polyalkyl-polyether-copolymers and derivatives thereof.
(11) Mixed esters from pentaerythrite, fatty acids, citric acid and fatty alcohols and/or mixed esters of fatty acids with 6 to 22 C-atoms with methylglucose and polyoles, respectively glycerine or polyglycerine.
(12) Polyalkylene glycols.

Arrangement of the Phases

[0111] Where more than one phase is present the phases may be arranged in particular ways. There can be multiple phases of the same type, i.e. several wax phases, surfactant phases or wax/surfactant phases. Phases of the same type differ in composition. The phases can be incorporated in the cleansing bar but can also be located at the surface of the bar. A phase may be present over the whole volume or in parts of the cleansing bar. Each of the phases may contain one or more of the ingredients mentioned hereinafter, e.g active ingredients, dyes, emulsifiers, etc. Preferably, any lipophilic ingredients are incorporated into a wax phase.

[0112] The phases can be present evenly or non-evenly in the cleansing bar, non-evenly meaning that the distribution of the amount of the phase varies, i.e. some volume areas of the cleansing bar can have greater or lesser amounts of the phase. Preferably the phases are applied evenly in the bar.

[0113] If present at the surface, a phase can be at one side or at two or more sides of the cleansing bar, continuously or discontinuously. In the latter instance, a phase may be present as one or more forms or shapes, e.g. dots or spots, lines or stripes, as geometrical figures, as symbols such as letters, text, logos, trademark signs, etc.

[0114] In one embodiment, the cleansing bar is composed of two phases, e.g. a wax phase and a surfactant phase. This may result for example in a cleansing bar that at one portion of the bar has cleansing capacity and at another portion has caring capacity. In other embodiments, the bar may have three, four or more phases. For example the bar may be composed of two compartments each of about equal size, the right compartment being composed of wax phase and the left compartment of surfactant phase. There can be embodiments with three, four or more compartments.

[0115] The various phases may be arranged in a variety of ways. One embodiment comprises a cleansing bar composed of two or more layers of different phases, e.g. a bar composed of a surfactant phase layer and a wax phase layer; or a bar composed of a multitude of layers of phases, e.g. a bar with at the bottom a layer such as a surfactant phase layer, in the middle another layer such as a wax phase layer, and on top again a surfactant phase layer. In principle any number of layers, each layer being composed of either wax phase, surfactant phase or wax/surfactant phase. The layers may be placed vertically (meaning that the layer runs in parallel with the largest surface of the bar) or horizontally (meaning that the layer runs in parallel with the smallest surface of the bar), or even skew or in a wave pattern.

[0116] Another embodiment is a cleansing bar that is composed of a core of one type of phase, wherein the core is enclosed in a layer of another phase, or a multitude of layers (an onion-type of arrangement).

[0117] Another embodiment is a cleansing bar incorporating a plurality of wax particles which may be of equal or different size. A particular execution may be a surfactant phase including a plurality of wax beads.

[0118] Still other embodiments are those having a core of synthetic material covered by surfactant and wax phases. The core may have several shapes, including shapes forming a specific shape and may be made of any suitable polymeric material such as polyethylene, polypropylene, polyester, polyamide, polyvinyl, including combinations there-

of. The core may be embedded in one phase or in two or more phases, similar as the embodiments described above.

[0119] Any of the phases may be colorless or colored, i.e. mono- or multi-colored, transparent or opaque. Multi-colored cleansing bars are obtained by applying several wax phases that have been dyed differently. A colored wax phase will alert the user of the fact that the cleansing bar contains a special material that contains an active ingredient or it may also make the product aesthetically attractive.

Particular compositions of the cleansing bars

[0120] Particular embodiments of cleansing bars in accordance with the present invention are those having the following composition. Any percentage in this section is w/w relative to the total weight of the cleansing bar.

A. Soap bars	
1. Soaps (e.g. sodium tallowate and sodium palm kernelate)	65 - 83%
2. Water	5 - 15%
3. Polyoles (in particular glycerin)	0 - 2%
4. Salt (in particular NaCl)	0 - 1%, in particular 0.5 - 1%
5. Sequestering Agents (disodium phosphate, pentasaodium pentetate, tetrasodium edta, tetrasodium etidronate, etc.)	0 - 0.75%, in particular 0.25-0.75%
7. Perfume	0 - 3%, in particular 0.1 - 3%
8. Emollients/Lipids (Mineral oil, etc)	0 - 3%, in particular 0.5 - 3%
9. Actives (e.g. proteins, anti-bacterials, anti-perspirants, etc)	0 - 5%, in particular 0.1 - 5%
10. Colorants 0 - 1 %, in particular	0.01 - 1%
11. Wax in accordance with this invention	1 - 50%, or 1- 30%, in particular 5 - 35% or 8 - 20%

B. Syndet bars	
1. Surfactants (and optionally fillers, plasticizers, water, inorganic pigment such as e.g. titanium dioxide) Suitable surfactants comprise, for example,e.g. disodium fatty alcohol (C12-C18) sulfosuccinate, sodium fatty alcohol (C12-C18) sulfate, sodium cocoyl isethionate, disodium fatty alcohol (C12-C18) sulfoacetate, including mixtures thereof.	70 - 94%
2. Water	1 - 5%
3. Parfum	1 - 3%, in particular 0.1 - 3%
4. Emollients/Lipids	0 - 3%
5. Actives (Examples of actives are proteins, anti-bacterials, anti-perspirants, etc)	0 - 3%, in particular 0.1 - 3%
6. Colorants	0 - 1 %, in particular 0,01 - 1%
7. Wax composition in accordance with this invention	1 - 30%

Manufacture

[0121] The cleansing bars of the invention may be made using art-known techniques. Soap bars are made starting from a suitable soap base which is made by saponification of suitable oils or fats, washed , neutralized and dried in a spray-drying process in a scraped-wall heat exchanger yielding a soap base in the form of flakes (or noodles). The soap base may be processed further by milling, plodding, and stamping, or the soap base may be extruded and stamped. During this further processing step the wax may be added, but also other ingredients may be added, such as fragrances, colorants, active ingredients, moisturizers, etc. A similar process may be applied to produce syndet bars.

[0122] Soap bars can also be formed by a frame moulding process where the molten mass is poured into a frame, allowed to cool whereupon the soap sets. The resulting slab of solid soap is then cut into pieces of desired size.

Cleansing bars can further be formed by a pour moulding process which comprises pouring the molten mass into a mould thereby leaving the bar in the desired shape upon cooling. Frame and pour moulding is a widely-used process for producing glycerine soap bars and in particular for transparent soap bars. The wax and optional other ingredients are added to the molten mass prior to pouring it into the frame or mould.

[0123] These processes yield to cleansing bars with one surfactant/wax phase. They can also be used to prepare a surfactant/wax phase which is combined with another phase, e.g. a wax phase, e.g. by compression.

[0124] Another technique to prepare multiphase products is by multiple pouring and cooling steps. It may be desirable to put a sheet between each phase to avoid mixing of the phases.

[0125] Syndet soap bases can be made in accordance with art-known procedures and are commercially available. The syndet soap bases are processed further as outlined hereafter. First, the syndet base is mixed together with water, fragrance, colorant and any other ingredients (additives). The optimal mixing time depends on the formulation, on the batch size and the equipment itself. The total water content of the formulation preferably is in the range of 6 - 8%. The starting syndet bases may have a certain water content, in some instance the addition of water may be required. Then the wax, which needs to be premelted, is added under continuous mixing. The whole is mixed until the syndet base takes up homogenously the wax phase and where applicable, the other additives.

[0126] The mixing step is usually followed by a refining step. Refining typically is carried out using a simplex refiner followed by a 3-roll mill which provides good homogenization. Upon start-up the rolls preferably should not be cooled to ensure good product adherence to the rolls. Once this is achieved, the rolls should by preference be cooled to have consistent product transfer from roll to roll and to cool the product.

[0127] A next step comprises final refining and extrusion. Duplex vacuum plodders are the standard units which most of the time are used in syndet bar manufacturing lines. A refining screen of experimentally optimized mesh size can be used in the preliminary stage while the final extrusion stage could be free from any screens or drilled plates. The extrusion head temperature depends on the size and design of the head. It usually varies from about 50 - 60°C , but greater variations may be possible depending on the type of syndet surfactant, the additives and in particular of the amount of wax. This temperature determines the surface finish of the extruded slug. The slug temperature preferably should range between 36 to 41°C depending on syndet base that is being used.

[0128] The next step comprises cutting. Multiblase or electronic single blase cutters are generally used to cut the continuous slugs into individual length pieces. The syndet bars may be stamped into any banded and bandless shapes.

[0129] An advantage of syndet bars, or cleansing bars having phases based on syndet material, is that they have a much lower pH than classic soaps. This allows the use of a wider range of additives/actives which are unstable in an alkaline environment such as in classic soaps.

[0130] Thus in another aspect, this invention further concerns a process for preparing a cleansing bar as specified herein, said process comprising shaping a wax/surfactant phase into a cleansing bar; or creating one or more phases, at least one of which is a surfactant phase or a wax/surfactant phase and combining the phases into an appropriately-shaped cleansing bar.

[0131] A multiphase cleansing bar can be made by art-known methods, e.g. by first casting one phase which is subsequently allowed to set and subsequently casting another phase. The phase can be any phase, i.e. wax phase, surfactant phase (soap based, syndet based or combo based), or wax/surfactant phase (again: soap based, syndet based or combo based). As mentioned above, these phases may be combined in any variation.

[0132] A phase can be applied to the exterior part of the cleansing bar by coating liquid material, obtained by melting or dissolving into a suitable solvent which is evaporated afterwards, to a cleansing bar. As used herein the term 'coating' refers to printing, covering, overlaying, finishing, spraying, extruding, laminating or any other method of applying the wax phase to the surface of the cleansing bar. A phase may be applied by bathing the cleansing bar into a liquid phase or by spraying.

[0133] The wax phase may be applied in liquid form while being in mixture with water, which can be colored or uncolored and which is removed after application, to result in a dry or essentially dry product. The water is subsequently evaporated, e.g. by applying dry air, either heated or not.

[0134] A drying step may be applied at any time during the process. Drying can be done by conventional methods, e.g. by the application of hot air, or by leading the cleansing bar through an oven or over a heated or warmed transport roll.

[0135] The thus obtained cleansing bars can be packed individually or can be packed in a determined number in a suitable package, for example a plastic wrap, box and the like.

Application and properties

[0136] It has been found that the addition of the specific wax or wax phase as outlined hereinabove results in a decrease of the sloughing and mushing effect. The latter is the tendency towards mushiness when a soap bar is left in contact with water for a certain period of time and is a feature of both syndet and fatty acid soap bars. This so-called

sloughing/mushing may be determined quantitatively by dipping a bar into water for several hours and then carefully scraping the soft and mushy part away from the surface. The weight loss under defined conditions is a relative measure of sloughing. The uptake of water of a syndet or fatty acid soap bar is strongly influenced by the additive used in the formulation. Hydrophilic additives like surfactants increase the sloughing whereas hydrophobic additives like fatty acid glycerides usually decrease it.

[0137] The products according to the present invention advantageously result in an optimal release of the active ingredient(s) onto the skin during use.

[0138] Optimal release of active ingredients can be achieved by using a wax phase which is a solid lipid having a melting point or melting range which is equal to or slightly exceeds body temperature. Without being bound to theory, it is believed that this results in a quicker melting of the wax phase, causing a faster and more efficient transfer and release to the skin of the active materials.

[0139] Optimal release of active ingredients can also be achieved by using a suitable emulsifier in the wax phase to cause a local emulsification process on the skin during use of the cleansing bars. This local emulsification can also be achieved by contacting the wax phase in the products with water or with an aqueous phase prior to usage. This local emulsification may be the result of body temperature causing the wax phase to melt or it may be the result of pressure exerted during usage of the wipe, or it may be the result of both, the latter being usually the case. In the instance of local emulsification by the effect of pressure, the emulsification process is driven by the (limited) pressure exerted by the user when using the bar on the skin. This causes the lipid phase to come in contact with water or an aqueous phase and form an emulsion locally.

[0140] In this local emulsification process, a limited amount of the phase without emulsifier is incorporated into the phase having the emulsifier. Optimal release of active ingredients can also be achieved by making use of both above possibilities.

[0141] The products according to the invention can be for baby or adult use in a wide range of applications, as personal care products, comprising, for example, baby cleansing, face or body cleansing, combined skin cleansing and treatment or conditioning such as, for example, combined cleansing/moisturization such as in after-sun treatment. The product may combine cleansing and application of particular active ingredients such as anti-acne agents, anti-aging agents, make-up removal agents, refreshers, warming or cooling agents, insect repellents, anti-perspirants, sunscreens, or combined cleansing and peeling.

[0142] The products of the invention may find use as cleansing tools and are particularly effective to remove both aqueous and lipid soils and components. The products of the invention may in particular be used as cleansers for babies because of their effectiveness to cleanse and their mildness.

[0143] The products described herein find use as both cleanser and applicator of active substances in one product. They further allow to independently optimize the cleansing and skincare attributes of the product and at the same time improve the delivery of skincare actives onto the skin. The products of the invention may show improved performance in terms of cleansing and skin benefits since both attributes can be formulated in different phases independently.

[0144] A still further advantage lies in the fact that the instant products allow an improved transfer of actives onto the skin.

[0145] Most types of wax compositions described in this specification, possess the additional advantage that they are almost odorless (unless fragrances are added), environmentally friendly and biologically decomposable.

Examples

[0146] The following examples are given with the nomenclature of INCI. As used in the following examples, C.I. refers to dyes. The following ingredients are commercially available.

1) Cegesoft® HF 52
INCI: Hydrogenated Vegetable Oil
Manufactured by: Cognis Deutschland GmbH & Co. KG

2) Cegesoft® PS 6
INCI: Vegetable Oil
Manufactured by: Cognis Deutschland GmbH & Co. KG

3) Eumlugin® VL 75
INCI:Lauryl Glucoside, Polyglyceryl-2 Dipolyhydroxystearate, Glycerin, Aqua (Water); ca. 75 % active ingredient in water Manufactured by: Cognis Deutschland GmbH & Co. KG

4) Cegesoft® GPO

Manufactured by: Cognis Deutschland GmbH & Co. KG

5) Tospearl® 145 A

6) Timoron® Splendid Gold

Example 1: wax phases

[0147] The following wax phases were prepared by melting the ingredients together.

Phase 1-A	
Cocoglycerides	64.99 %
Cetyl Alcohol	33.00 %
Di-Stearyl Ether	1.00 %
Tocopherol	1.00 %
C.I.61565	0.01%

Phase 1-B	
Cocoglycerides	54.99 %
Cetyl Alcohol	33.00 %
Ceteareth-12	3.00 %
Glyceryl Stearate	4.00 %
Di-Stearyl Carbonate	2.00 %
Tocopherol	1.00 %
C.I.61565	0.01%
Aqua	2.00 %

Phase 1-C	
Cocoglycerides	49.99 %
Cetearyl Alcohol	20.00 %
Cegesoft® HF 52	5.00 %
Cegesoft® PS 6	3.00%
Ceteareth-12	2.00 %
Glyceryl Stearate	2.00 %
PEG-20 Stearate	10.00 %
Di-Stearyl Ether	2.00 %
Tocopherol	1.00 %
C.I.61565	0.01%
Aqua	5.00 %

Phase 1-D	
Cocoglycerides	58.99 %
Glyceryl Stearate	25.00 %
Glyceryl Laurate	14.00 %
Di-Stearyl Carbonate	1.00 %
Tocopherol	1.00 %
C.I. 75300	0.01%

Phase 1-E	
Cocoglycerides	30.00 %
Cetearyl Alcohol	1.00 %
Cegesoft® HF 52	20.00 %
Cegesoft® GPO	5.00 %
Ceteareth-12	15.00 %
Glyceryl Stearate	20.00 %
Di-Stearyl Ether	5.00 %
Tocopherol	1.00 %
Panthenol	1.00 %
Aqua	2.00 %

Phase 1-F	
Cocoglycerides	19.99 %
Cetearyl Alcohol	30.00 %
Cegesoft® PS 6	10.00 %
Eumulgin® VL 75	10.00 %
Ceteareth-12	5.00 %
Glyceryl Stearate	10.00 %
Di-Stearyl Carbonate	5.00 %
Tospearl® 145 A	5.00 %
Zinc Stearate	2.00 %
C.I.61565	0.01%
Aqua	3.00 %

Phase 1-G	
Myristyl Alcohol	19.99 %
Cocoglycerides	10.00 %
Cegesoft® HF 52	20.00 %
Eumulgin® VL 75	10.00 %
Glyceryl Stearate	20.00 %
PEG-20 Stearate	5.00 %
Di-Stearyl Carbonate	2.00 %
Panthenol	3.00 %
C.I.61565	0.01%
Aqua	10.00 %

Phase 1-H	
Myristyl Alcohol	47.99 %
Stearyl Alcohol	25.00 %
Eumulgin® VL 75	2.00 %
PEG-20 Stearate	14.00 %
1,2-Hexadecanediol	5.00 %
Bisabolol	1.00 %
C.I.47000	0.01%
Aqua	5.00 %

Phase 1-I	
Cocoglycerides	47.99 %
Stearyl Alcohol	20.00 %
Eumulgin® VL 75	2.00 %
PEG-20 Stearate	12.00 %
Di-Stearyl Carbonate	5.00 %
Cyclomethicone	3.00 %
Tospearl® 145 A	5.00 %
C.I. 75300	0.01%
Aqua	5.00 %

Phase 1-J	
Cocoglycerides	55.99 %
Glyceryl Stearate	20.00 %
Glyceryl Laurate	15.00 %
Di-Stearyl Carbonate	5.00 %
Talc	2.00 %
Aluminum Starch Octenylsuccinate	2.00 %
C.I. 60725	0.01%

Phase 1-K	
Cocoglycerides	50.99 %
Glyceryl Stearate	25.00 %
Glyceryl Laurate	15.00 %
Di-Stearyl Ether	5.00 %
Talc	2.00 %
Timiron® Splendid Gold	2.00 %
C.I. 21230	0.01%

Phase 1-L	
Myristyl Alcohol	58.99 %
Stearyl Alcohol	23.00 %
PEG-20 Stearate	15.00 %
Di-Stearyl Carbonate	2.00 %
Panthenol	1.00 %
C.I.61525	0.01%

Phase 1-M	
Myristyl Alcohol	47.99 %
Stearyl Alcohol	25.00 %
Eumulgin® VL 75	2.00 %
PEG-20 Stearate	10.00 %
Di-Stearyl Ether	7.00 %
Panthenol	2.00 %
C.I. 61525	0.01%
Aqua	6.00 %

Phase 1-N	
Myristyl Alcohol	50.00 %
Stearyl Alcohol	25.00 %
Eumulgin® VL 75	2.00 %
PEG-20 Stearate	10.00 %
Di-Stearyl Ether	7.00 %
Ethyl Butylacetylaminopropionate	5.00 %
Panthenol	1.00 %

Phase 1-O	
Cocoglycerides	54.99 %
Cetyl Alcohol	33.00 %
Ceteareth-12	3.00 %
Glyceryl Stearate	4.00 %
Di-Stearyl Carbonate	2.00 %
Octyl Methoxycinnamate	6.00 %
C.I. 61565	0.01%

Phase 1-P	
Cocoglycerides	56.99 %
Glyceryl Stearate	25.00 %
Glyceryl Laurate	14.00 %
Di-Stearyl Carbonate	1.00 %
Polyethylene	3.00 %
C.I. 75300	0.01%

Phase 1-Q	
Cocoglycerides	58.93 %
Glyceryl Stearate	25.00 %
Glyceryl Laurate	15.00 %
Di-Stearyl Ether	1.00 %
Aqua	0.06 %
C.I. 61565	0.01%

Phase 1-R	
Cocoglycerides	43.93 %
Stearyl Alcohol	15.00 %
Glyceryl Stearate	25.00 %
Glyceryl Laurate	15.00 %
Di-Stearyl Ether	1.00 %
Aqua	0.06 %
C.I. 61565	0.01%

Phase 1-S	
Cocoglycerides	44.93 %
Glyceryl Stearate	25.00 %
Glyceryl Laurate	15.00 %
Di-Stearyl Ether	15.00 %
Aqua	0.06 %
C.I. 61565	0.01%

Example 2

Preparation of a soap bar

[0148]

Component INCI Name	%-w/w
Sodium Tallowate	66.609
Sodium Palm Kernelate	11.200
Aqua	9.900
Sodium Chloride	0.600
Disodium Phosphate	0.025
Pentasodium Pentetate	0.025
Tetrasodium Etidronate	0.025
Parfum	0.500
C.I. 77891	0.336
Wax phase (eg. Phase 1-R)	11.78

[0149] The fats to be saponified are pumped in a saponification reactor. The whole is pressurized at 2 bar and brought at a temperature of 125 - 130 °C whereupon 12N NaOH is pumped into the reactor whereafter the whole is kept at the indicated temperature and pressure while being circulated with a recycle pump. Subsequently the soap is lead through a cooling mixture where it is cooled to 85-90 °C . The soap is then lead to a static separator where the soap is separated off the spent lyes. The soap subsequently is washed in a washing column. In a next step the soap mass is centrifuged to liberate it from the last lye traces and neutralized to the desired pH. The soap is dried by heating to 145 °C and spray-drying in vacuum yielding soap noodles which form the soap base.

[0150] The chelating agents are added as well as the wax composition (i.e. a wax I-R as described in the previous example) and any other additives. These are subsequently transferred into soap bars by melting and casting.

Example 2

[0151] Examples of poured/moulded cleansing bars:

Cleansing bar A	
1. Moisturizing White Glycerin Soap base	90%
2. Fragrance	1%
3. Wax phase (i.e. wax I-A as described in the previous example)	9%

Cleansing bar B	
1. Moisturizing White Glycerin Soap base	84.5%
2. Fragrance	0.5%
3. Wax phase (i.e. wax I-B as described in the previous example)	15%

Cleansing bar C	
1. Moisturizing Clear Glycerin Soap base	68.49%
2. Fragrance	1.5%
3. Colorant	0.01%
4. Wax phase (i.e. a wax phase I-A to I-R as described in the previous example)	30%

[0152] Example on manufacturing process (bars A - C):

I. Heat the soap base (microwave or standard heating) and melt the base
II. Add the ingredients 2 - x slowly while mixing.
III. Pre-melt wax phase separately and when melted poor under mixing into the soap base.
IV. Mix until homogenous and finally poor the complete base into prepared molds.
V. Let the soap completely cool before releasing from the molds.

Example 3

[0153] As used herein Zetesap™ 813P is the tradename of a syndet base containing a blend of disodium fatty alcohol (C12-C18) sulfosuccinate and sodium fatty alcohol (C12-18) sulfate, fillers, plasticizers, water and TiO_2.
[0154] As used herein Zetesap™ 5165 is the tradename of a syndet base containing a blend of disodium fatty alcohol (C12-C18) sulfosuccinate and sodium cocoyl isthionate, fillers, plasticizers, water and TiO_2.

Example 3-A

[0155]

1. Zetesap™ 813P syndet base	90%
2. Water	4%
3. Fragrance	1%
4. Wax I-C	5%

Example 3-B

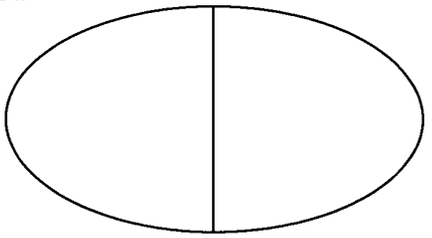
[0156]

Zetesap™ base 5165	
1. Zetesap™ base 5165	62.69%
2. Water	3.5%
3. Fragrance	1.8%
4. Colorant	0.01%
5. Wax I-D	32%

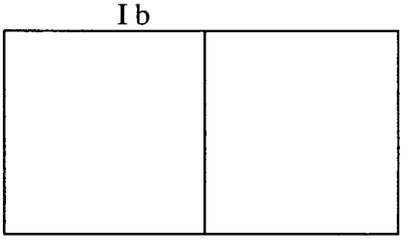
Example 4: illustration of the arrangement of the phases

[0157] The cleansing bars shown below can have all forms as described in the specification, e.g. ellipsoid, rectangular, round, square etc.

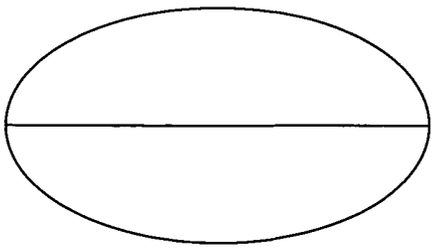
I a



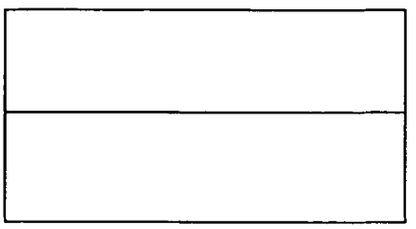
I b



I c

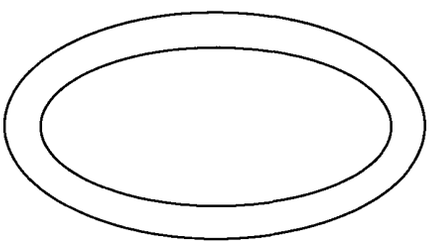


I d

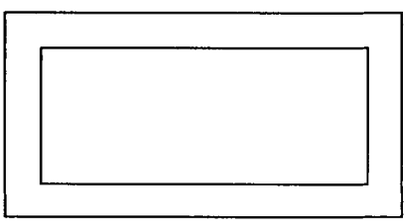


[0158] Ia-Id: soap bars with two separated phases, which can be distinct wax and surfactant phases or a wax respectively surfactant phase in conjunction with a mixed wax/surfactant phase.

II a

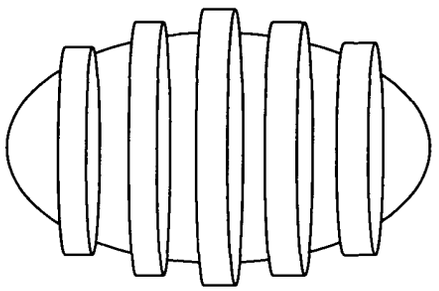


II b

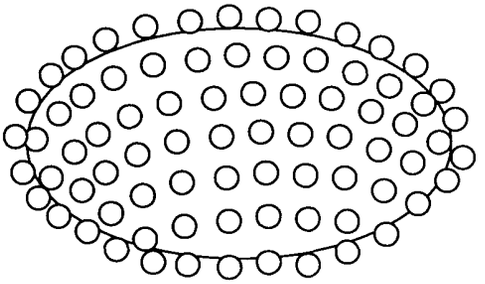


[0159] II a, b: soap bars which have a solid, undissolvable core made from a synthetic material like polyethylene, polypropylene, polyester, polyamide etc. or mixtures thereof. The outer layer is a mixture of the wax/surfactant phases which can be in different ratios from 50:50 to 1:99 (weight amounts of wax:surfactant).

III a



III b

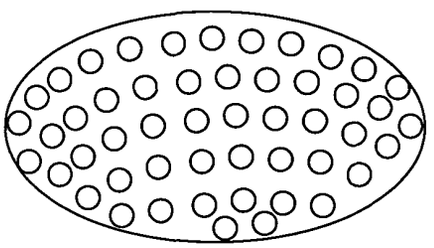


[0160] III a/b: Soap bars with distinct zones on the bar.

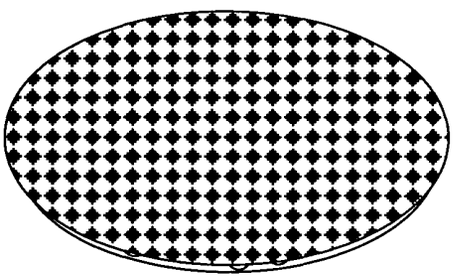
[0161] In the form of a dissolvable bar the wax and surfactant phases are separated, where one of the phases, preferably the wax phase, is applied to the other phase in a 3d form like stripes, dots, logos etc.

[0162] In the form of a non-dissolvable bar the uniform wax/surfactant phase is applied in a 3D form onto the synthetic material the bar core is made from.

IVa



IV b



[0163] IV a: Dissolvable bar with separated phases in the way that one phase, preferably the wax phase, is added to the surfactant phase in the form of beads, granules or capsules.

[0164] IV b: soap bar with an apertured film as cover made from a synthetic material like polyethylene, polypropylene, polyester, polyamide etc.. The bar itself can be made as one of the previous examples 2-3.

Claims

1. A cleansing bar that comprises surfactants and a wax, wherein the wax comprises at least one wax component selected from dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarboxylic acids or hydroxy fatty alcohols, or mixtures thereof.

2. A cleansing bar according to claim 1, that comprises:

   (a) one or more surfactants;
   (b) one or more waxes selected from dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarboxylic acids or hydroxy fatty alcohols or mixtures thereof;
   (c) one or more active ingredients.

3. A cleansing bar according to claim 1, that comprises

(a) from 25% to 95% of one or more surfactants;
(b) from 1% to 50% of a one or more waxes, wherein the waxes comprise at least one wax component selected from dialkyl(ene) ethers, dialkyl(ene) carbonates, dicarboxylic acids or hydroxy fatty alcohols, or mixtures thereof;
(c) from 0 - 5% of one or more active ingredients.

4. A cleansing bar according to any of claims 1 - 3 wherein the wax has a low water content, in particular lower than 10%.

5. A cleansing bar according to any of claims 1 - 3 wherein the wax contains one or more active ingredients.

6. A cleansing bar according to any of claims claims 1 - 5 wherein the melting point or melting range of the wax is in the range of 32 to 40 °C.

7. A cleansing bar according to any of claims 1 to 6 wherein the wax additionally contains fatty alcohols.

8. A cleansing bar according to claim 7 wherein the wax contains C_{12}-C_{50}-fatty alcohols, in particular the C_{12}-C_{24}-fatty alcohols.

9. A cleansing bar according to claim 8 wherein the fatty alcohols are selected from myristyl alcohol, 1-pentadecanol, cetyl alcohol, lauryl alcohol, oleyl alcohol, palmityl alcohol, 1-heptadecanol, stearyl alcohol, cetearyl alcohol, 1-nonadecanol, arachidyl alcohol, 1-heneicosanol, behenyl alcohol, brassidyl alcohol, lignoceryl alcohol, ceryl alcohol or myricyl alcohol and C_{16}/C_{18}-Guerbet alcohols.

10. A cleansing bar according to any of claims 8 or 9 wherein the fatty alcohols are present in the wax, in an amount relative to the total weight amount of the wax, which is in the range of 1 - 40 %, preferably 1 - 30 % (w/w), more preferably of 1 - 20 % (w/w), still more preferably from 1 -10 % (w/w).

11. A cleansing bar according to any of claims 1 to 6 wherein the wax contains fatty acids.

12. A cleansing bar according to claim 11 wherein the fatty acids are C_{14}-C_{40}-fatty acids or in particular are C_{16}-C_{30}-fatty acids.

13. A product according to any of claims 10 to 12 wherein the total amount of the fatty acids present in the wax, relative to the total weight amount of the wax, is in the range of 1 - 30 % (w/w), preferably of 1 - 20 % (w/w), more preferably from 1 -10 % (w/w).

14. A product according to any of claims 1 to 6 wherein the wax additionally contains one or more of components (a), (b), (c), (d), (e) or (f) as defined hereafter:

(a) at least 1 - 50 % (w/w), in particular at least 1 - 10 % of an oily or waxy component
(b) 0.1 - 5 % (w/w) of at least one active ingredient
(c) 1 - 10 % (w/w) of at least one oil
(d) 0.1 - 10 % (w/w) of at least one emulsifier
(e) 5 - 90 % (w/w) of further waxy components
(f) 0 - 5 % (w/w) water.

15. A product according to claim 14 wherein the wax phase contains all components (a)-(f).

16. A cleansing bar according to any of claims 1 - 6 wherein the wax in the cleansing bars of this invention is present as a wax phase.

17. A cleansing bar according to any of claims 1 - 17 wherein the cleansing bar is a soap bar, or the cleansing bar is a syndet bar.

18. A method of manufacturing a cleansing bar as claimed in claims 1 - 17, said method comprising mixing a wax

phase with surfactants.

19. The use of a cleansing bar as claimed in claims 1 - 17 as a cleansing tool, in particular in personal care applications.

20. The use of a cleansing bar as claimed in claims 1 - 17 for combined cleansing and application of active substances.

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 07 5015

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	29 July 2004	Boeker, R

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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L : document cited for other reasons

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EPO FORM 1503 03.82 (P04C01)

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