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TOPICAL PREPARATION

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This invention relates to a topical preparation for use as a balm, inhalant, liniment or rub. More particularly the invention relates to a substantially stable, paste-like water emulsion of a soap base and one or more medicinal essential oils and stearoptens.

It has heretofore been proposed to prepare face creams and so-called "vanishing" creams by emulsifying a relatively large proportion of free fatty acids with soap. I have found, however, that when such preparations are used as a base, it is impossible to incorporate substantial proportions of medicinal essential oils and stearoptens without the emulsion breaking down, especially when subjected to alternate heating and cooling.

If, however, the free fatty acids be eliminated or reduced to an amount not exceeding about 10% of the soap base, very substantial proportions of medicinal essential oils of stearoptens, as high as 50 to 60% by weight of the finished mixture, can be incorporated into the emulsion without causing the emulsion to break down. In fact, the topical preparation of my invention remains in the form of a stable emulsion even after repeated heating to the boiling point of water and cooling to below the freezing point of water. No other preparations of this greaseless type that I have examined have possessed this stability toward alternate heating and cooling steps.

It is therefore an important object of this invention to provide a topical preparation for use as a balm, inhalant, liniment, rub, or the like, that is in the form of a relatively thick, pasty emulsion of a substantially permanently stable character.

It is a further important object of this invention to provide a topical preparation for use as a balm, inhalant, liniment, rub, or the like, that is substantially greaseless and stainless and that provides a relatively high percentage of medicinal essential oils and stearoptens in the form of a stable, water emulsion of a thick, paste-like consistency.

Other and further important objects of this invention will become apparent from the following description and appended claims.

The topical preparation of my invention com-

prises a soap base and a mixture of essential oils and stearoptens incorporated together in the base to form a substantially permanently stable emulsion. I have found that practically any soap may be used for the base, provided that it does not contain over about 10% of a free fatty acid. Preferably, however, a soft soap base is employed, such as potassium stearate or potassium oleate, and most satisfactorily a mixture of the two with not over about 5% of a sodium soap. Such a mixture gives a softer base and one forming a smoother and creamier emulsion with the medicinal essential oils and stearoptens. If a larger proportion of a sodium soap is used, the soft, creamy character of the emulsion is sacrificed in proportion to the amount of the sodium soap employed.

Any of the medicinal essential oils and stearoptens may be incorporated into the topical preparation of my invention, the selection of essential oils and stearoptens being largely governed by the purpose for which the preparation is to be used. I have satisfactorily used such essential oils as eucalyptus, methyl salicylate, rosemary, lavender, oil of wintergreen and oleo resins of capsicum, and such stearoptens as menthol and camphor. The essential oils and stearoptens are first mixed together in order to form a liquid mixture, or one may start with liquid mixtures of the essential oils and stearoptens, such as can be readily obtained on the market.

The soft soap base, exclusive of the water content, may suitably comprise between 10 and 30% of the total weight of the topical preparation. A mixture of the desired medicinal essential oils and stearoptens may be incorporated into this soap base in proportions of from 10 to 60% by weight of the finished preparation, but, in general, it is not desirable to incorporate above about 30% of the mixture of essential oils and stearoptens by weight. A preferred proportion of the essential oils and stearoptens is between 15 and 20% by weight of the finished preparation. A small amount of a liquid hygroscopic agent, preferably polyhydric alcohols, such as glycerine and water soluble glycols, is incorporated into the preparation to increase its softness and as an aid in maintaining the consistency of the preparation and keep it from drying out.

A typical formula showing a preferred embodiment of my invention is as follows:

	Parts by weight
5 Stearic acid.....	504
Oleic acid.....	144
Potassium hydroxide (solid).....	126
Menthol.....	225
Camphor.....	125
10 Oil of wintergreen.....	90
Oil of lavender.....	90
Oil of rosemary.....	20
Glycerine.....	250
Water.....	1800

15 When the foregoing formula is made up, the total weight will be found to be about 3365 parts by weight, some water vapor and essential oils being lost in the mixing. A preparation made up in accordance with the foregoing formula
20 will thus have substantially the following proportions, expressed in percentages by weight:

	Per cent
Soft soap base.....	23
25 Mixed essential oils and stearoptens.....	17
Glycerine.....	7
Water.....	53

In preparing the soap base, either the fats themselves may be saponified in the usual manner of making soaps, or the mixed stearic and oleic acids may be saponified with the potassium hydroxide. The saponification may be carried out in the cold or at elevated temperatures. One suitable method is to melt the stearic and oleic acids together at about 75° C. and add, with stirring, to the total quantity of water containing the glycerine and the potassium hydroxide dissolved therein, also heated to about 75° C. The temperature of mixing is not, however, at all
40 critical. After the saponification is complete, the mixture may be allowed to cool somewhat. The mixture, when first prepared, is quite stringy, but on ageing for a day or so becomes a thin cream.

45 In the foregoing formula, the stearic and oleic acids are in the proportion of about 3 parts of stearic to 1 part of oleic and together they are in slight excess over the theoretically reacting weight of potassium hydroxide required for complete saponification, the excess being in the neighborhood of 3%. As previously stated, there is preferably no substantial excess of fatty acids in the soap base, since I have found that if there is any large excess of free fatty acid present, the capacity of the soap base to emulsify large proportions of the medicinal essential oils and stearoptens is considerably reduced. It is therefore preferable to keep the free fatty acid content of the soap base at a minimum and certainly
60 not above 10%. The proportion of oleic acid to stearic acid, however, may vary through a considerable range, but as the oleic acid content is decreased and the stearic acid content increased, the finished preparation loses some of its soft, creamy texture. I prefer, therefore, to use at least 20% of oleic acid in the mixture of fatty acids to be saponified and may use up to 40 to 50% by weight.

70 The mixture of medicinal essential oils and stearoptens in liquid form is then added, either hot or cold, to the thin aqueous soap solution, with stirring. During stirring the mass stiffens and finally sets up to a very thick paste or mush.
75 Upon ageing from 12 to 24 hours, the pasty mass

thins out somewhat to the consistency of an ordinary cosmetic cream or salve.

Stearoptens by themselves cannot be satisfactorily emulsified with the soap base, since they are solids at ordinary temperatures and are not miscible or soluble in water and cannot be saponified. The stearoptens, however, such as camphor, menthol, and the like, may first be dissolved in the essential oils, either with or without the use of heat. If both menthol and camphor
10 are to be used, they may be heated together by themselves and upon melting they become miscible to form a relatively thin liquid that can be incorporated directly into the soap base.

The product of my invention may be used as a balm, inhalant, liniment and rub and is especially satisfactory for these purposes for the reason that it does not stain the clothing nor does it leave grease spots. It is substantially permanently stable throughout all ordinary
20 changes in climatic temperatures and may be repeatedly subjected to temperatures above the boiling point of water and below the freezing point of water without breaking the emulsion. This is not true of previous types of soap emulsions containing a large excess of free fatty acids. This is of considerable advantage since it eliminates the necessity of protecting shipments of my topical preparation where the shipments would be exposed to the extreme climatic conditions of summer or winter.

It will be understood that essential oils alone may be incorporated into my preparation, or mixtures of essential oils, or mixtures of the essential oils and one or more stearoptens. The important feature of my invention is that it provides a means for incorporating a relatively large proportion of the medicinal essential oils and stearoptens in a soft soap base, whereas heretofore, to the best of my knowledge, not over about 5% of essential oils and stearoptens could be incorporated into the known salve bases without breaking the emulsion. It was wholly unexpected that a thin liquid mixture of medicinal essential oils and stearoptens could be incorporated into a thin, watery aqueous soap solution in amounts from 10 to 60% by weight of the total mass and yet obtain a relatively thick, creamy paste. I know of no theory that adequately explains the stiffening action of the
50 liquid essential oils and stearoptens upon the thin aqueous soap solution. There is, however, a distinct phenomenon that takes place, whereby the whole sets up to a stiff, mushy paste that upon standing thins out slightly to the desired consistency of a good salve or ointment. The final product is white in appearance.

When my topical preparation is applied as a salve or liniment by rubbing into the skin, it is absorbed well by the skin and leaves only a slightly soapy feeling, which upon further rubbing disappears entirely. The preparation is miscible with water in all proportions and may be readily removed from clothing by washing with water.

I am aware that numerous details of the process may be varied through a wide range without departing from the principles of this invention, and I, therefore, do not purpose limiting the patent granted hereon otherwise than
70 necessitated by the prior art.

I claim as my invention:

1. A topical preparation of thick, paste-like consistency comprising a stable water emulsion of a soft soap containing not over 10% by weight
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of the mixture of a free fatty acid, and from 10 to 60% by weight of essential oils and stearoptens.

2. A topical preparation of thick, paste-like consistency comprising a stable water emulsion of a soft soap containing not over 10% by weight of the mixture of a free fatty acid, from 10 to 60% by weight of essential oils and stearoptens and a liquid hygroscopic agent selected from the class of water soluble polyhydric alcohols.

3. A topical preparation of thick, paste-like consistency that is substantially greaseless and stainless comprising a stable water emulsion of a soap mixture including potassium oleate and containing not over 10% by weight of the mixture of a free fatty acid, and from 10 to 30% by weight of essential oils.

4. A topical preparation of thick, paste-like consistency comprising a stable water emulsion of from 10 to 30% by weight of a soap base containing a mixture of potassium stearate and oleate and containing not more than 10% by weight of the mixture of free fatty acids, and from 10 to 30% by weight of essential oils and stearoptens.

5. A topical preparation of thick, paste-like consistency comprising a stable water emulsion of from 10 to 30% by weight of a soap base containing a mixture of potassium stearate and oleate and containing not more than 10% by weight of the mixture of free fatty acids, from 10 to 30% by weight of essential oils and stearoptens and including menthol, camphor, eucalyptus and oil of wintergreen and glycerine.

6. The method of making a topical preparation, which comprises stirring together a liquid aqueous soap base containing a substantial proportion of potassium oleate and not more than 10% of free fatty acids by weight of the base and from 10 to 60% by weight of the final preparation of a liquid mixture of essential oils and stearoptens and continuing stirring until the mass stiffens up to form a smooth emulsion of thick, paste-like consistency.

7. The method of making a topical preparation, which comprises stirring together a liquid aqueous soap base containing a substantial proportion of potassium oleate and not more than 10% of free fatty acids by weight of the base and a liquid mixture of essential oils and stearoptens until the mass stiffens up to form a smooth emulsion of thick, paste-like consistency, the proportions being from 10 to 30% of the soap base and from 10 to 60% of the mixture of essential oils and stearoptens.

8. The method of making a topical preparation, which comprises stirring together an aqueous soft soap base containing not more than 10% of free fatty acids by weight of the base and a liquid mixture of essential oils and stearoptens in the proportions of from 10 to 30% of the soap base and from 10 to 30% of the essential oils and stearoptens by weight of the final preparation, and continuing the stirring until the mass stiffens up to form a smooth stable emulsion of thick, paste-like consistency.

9. A topical preparation of thick, paste-like consistency comprising approximately 23% of a soft soap base containing not over 10% by weight of the base of a free fatty acid, 17% of mixed essential oils and stearoptens, 7% of glycerine and 53% of water by weight.

10. A topical preparation of thick, paste-like consistency comprising a water emulsion of a soft soap base containing not over 10% by weight of the base of a free fatty acid, from 15 to 20% of essential oils and stearoptens by weight of the finished preparation and a small amount of glycerine as a softening agent.

11. A topical preparation of thick, paste-like consistency comprising a water emulsion of a soft soap base containing not over 10% by weight of the base of a free fatty acid, from 15 to 20% of essential oils and stearoptens by weight of the finished preparation and a small amount of a water soluble glycol as a softening agent.

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