

[54] **ARTICLE IMPREGNATED WITH SKIN-CARE FORMULATIONS**

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[22] **Filed: June 13, 1974**

[21] **Appl. No.: 478,924**

[52] **U.S. Cl. 128/261; 128/263; 424/16; 424/26; 424/28**

[51] **Int. Cl. A61m 35/00**

[58] **Field of Search 128/260, 261, 263, 81; 424/28, 16, 26, 14**

[56] **References Cited**

UNITED STATES PATENTS

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[57] **ABSTRACT**

An article is provided which may be in the form of an article of apparel, such as a glove, or a topical applicator for use in applying a therapeutic substance to the skin, which article is impregnated with the oil phase of a cream formulation. The oil phase impregnant is in the form of a non-oily solid which upon addition of water or moisture thereto is activated to form a cream.

26 Claims, No Drawings

ARTICLE IMPREGNATED WITH SKIN-CARE FORMULATIONS

FIELD OF THE INVENTION

The present invention relates to an article such as a piece of apparel or an applicator pad, impregnated with the oil phase of a cream formulation which upon the addition of moisture thereto forms a skin-soothing cream.

BACKGROUND OF THE INVENTION

The therapeutic effect which creams or oils have on the skin is unquestioned. For example, use of hand creams or facial creams are essentially in treating and/or preventing chapping or chafing of the skin.

The prior art is replete with articles of apparel and applicator pads for use in applying therapeutic creams, lotions or oils to the skin. For example, U.S. Pat. No. 2,501,565 discloses a hand mitten impregnated with a cream such as lanolin and lemon oil; U.S. Pat. No. 2,916,036 discloses a rubber glove, the lining of which is impregnated with an unguent material such as lanolin; other patents disclosing gloves impregnated with creams include U.S. Pat. Nos. 3,116,732; 3,342,182; 3,298,368; 3,384,083; and 3,499,446. Other articles of apparel impregnated with various therapeutic cream or oil formulations are disclosed in U.S. Pat. Nos. 3,354,884 (facial mask); 2,716,981 (facial mask); 2,664,087 (foot slipper); 3,489,884 (diapers); and 3,585,998 (diaper liners).

Paper products, such as tissues and toilet tissues are known to be impregnated with therapeutic cream or oil formulations. For example, U.S. Pat. No. 302,073 discloses a toilet paper impregnated with an unctuous or oily material such as vaseline, glycerine, paraffin or animal or vegetable oils. U.S. Pat. No. 1,687,643 discloses a toilet tissue coated with a cream which coating may be covered with a layer of paraffin to prevent the fingers from becoming soiled by the cream. U.S. Pat. No. 1,868,862 discloses a detergent towel impregnated with a soap compound which may include glycerine. U.S. Pat. No. 2,032,645 discloses an absorbent paper product containing a wetting agent to preserve the paper against loss of absorbency. U.S. Pat. No. 2,944,931 discloses a sanitary paper containing lanolin in the form of an aqueous emulsion. U.S. Pat. No. 3,264,188 discloses a sanitary impregnated skin wiper, such as toilet tissue, impregnated with an oily material and an emulsifying agent.

Patents disclosing applicator pads or cloths or paper impregnated with creams or cream-like materials include U.S. Pat. Nos. 1,836,833; 2,495,066; 2,702,780; 2,999,265; 3,624,224; and 3,129,811.

The articles or applicator paper or pads impregnated with cream or cream-like materials, disclosed in the afore-mentioned patents are quite useful for administering such creams to the skin. However, these articles and applicators have the same serious drawback, namely, that they are greasy or oily to the touch. They tend to stain oil-absorbent materials upon contact thereby losing the cream and ruining the materials contacted therewith. Thus, they must be packaged with great care and at great expense. For example, the toilet tissue disclosed in U.S. Pat. No. 3,264,188 impregnated with an oil and an emulsifying agent must be wrapped in oil-resistant paper to provide a non-staining package.

U.S. Pat. No. 2,495,066 discloses a dusting and polishing paper impregnated with a stable oil-in-water emulsion, which comprises a non-drying oil and one or

more emulsifying or surface active agents and a flexibilizing or plasticizing agent. The above ingredients are applied to the paper as an aqueous emulsion and the paper is then dried over steam rolls. The result is that the so impregnated paper is somewhat tacky or sticky because some of the water of the aqueous emulsion has not been driven off by the heating over the steam rolls and resulted in emulsification.

STATEMENT OF THE INVENTION

In accordance with the present invention, there is provided an article such as an article of apparel or a cream applicator which is impregnated with the oil phase of a cream formulation, in the form of a non-oily non-tacky solid, and which upon the addition of water or moisture thereto forms a therapeutic skin cream. The article of the invention is not greasy or oily to the touch and need not be packaged in oil resistant paper or other oil resistant packaging material and thus overcomes the afore-mentioned disadvantages associated with creams or cream-like or oily materials. Furthermore, the therapeutic composition or oil-phase carried by the articles of the invention is capable of controlled emulsion and sustained release of any other therapeutic substance or medicament present in said oil-phase, depending upon the type, melting point and amounts of oily materials and emulsifiers employed.

DETAILED DESCRIPTION OF THE INVENTION

In accordance with one embodiment of the present invention, there is provided an article of apparel, such as a glove, glove liner, facial mask, slipper, diaper, sanitary napkin and the like, which is to be worn by the user so that an inside portion of said article comes into direct contact with the user's skin in the area to which a therapeutic cream is to be applied. The article of apparel of the invention generally comprises an outer-portion which is worn away from the skin and an inner-portion which comes into direct contact with the skin of the user, which inner portion is impregnated with the oil phase of a cream formulation which upon addition of moisture thereto forms a cream. The oil phase, before addition of water thereto, is in the form of a dry non-oily non-sticky solid at room temperature, and generally comprises an oily material and one or more emulsifying agents and may include in addition, one or more emollients, dyes, perfumes and/or pharmaceuticals.

Where the article of the invention comprises a glove or glove liner, the glove or glove liner may be impregnated with an oil phase of a cream formulation to form a new and most advantageous hand care product. The glove or a pair of such gloves or liners may be employed by themselves or as a separate liner under rubber gloves, under dress gloves, under work gloves or gardening gloves. Furthermore, the gloves may be incorporated as permanent liners into any of the afore-mentioned type gloves. In any case, at least the inner portion of the glove which comes into direct contact with the skin of the user will carry the oil phase of the cream formulation which upon the addition of moisture thereto will form a therapeutic cream. The moisture required to form the cream will in most cases be supplied by the wearer of the glove. For example, where the gloves are worn while working, for example, such as rubber gloves worn during the washing of dishes, floors and the like, the moisture and heat produced by per-

spiring of the hands, will be sufficient to cause emulsification of a portion of the oil phase to form a therapeutic cream. Since the cream forms while the gloves are being worn, and perhaps while the wearer is working, the so-formed cream has an opportunity to work its way into the pores of the skin to provide beneficial and therapeutic effects even after the gloves are removed.

Only a relatively small amount of emulsification is necessary to produce a therapeutic amount of cream. The perspiration and heat generated by the wearer will produce the necessary amount of moisture to form the desired therapeutic amount of cream.

As indicated above, in accordance with the invention, the oil phase may be impregnated into other articles which are employed in contact with the skin, such as facial masks, slippers or shoe linings, diapers, diaper liners, sanitary napkins, dresses, pants and even bandages. In all such applications the contact of the wearer's skin will produce sufficient moisture and heat to cause emulsification of a portion of said oil phase.

Further in accordance with the present invention, there is provided an article for use in applying a therapeutic cream substance to the skin which article comprises a substrate impregnated with a therapeutic composition comprising the oil phase of a cream formulation in the form of a dry non-oily solid as described heretofore. Such substrate may comprise paper or a paper product, such as a tissue, towel, toilet tissue, woven and non-woven fabrics, and the like.

The oil phase which is in the form of a dry non-oily solid carried by the article of the invention comprises from about 1 to about 99% and preferably from about 30 to about 70 of an oily material and from about 99 to about 1% and preferably from about 70 to about 30% of an emulsifier.

Examples of oily materials suitable for use herein include, but are not limited to, mineral oil, petrolatum, paraffin, vegetable oil, such as linseed oil, soya bean oil or cotton seed oil, various animal oils, such as whale oil, lard oil, castor oil, olive oil, and isopropyl palmitate.

The emulsifying agents which may be employed herein cause emulsification of an oil upon contact with the oil without the necessity of high speed mechanical agitation. Such emulsifiers include anionic emulsifiers, cationic emulsifiers, and non-ionic emulsifiers. Examples of suitable emulsifiers include, but are not limited to, cetyl alcohol, as well as any one of those classified in the following groups.

1. A long chain fatty acid partial ester of a hexitol anhydride wherein the fatty acid has at least 6, preferably from 12 to 18, carbon atoms, including the long chain fatty acid partial esters of sorbitan, sorbide, mannitan and mannide and mixtures thereof. Examples of such esters are sorbitan monolaurate, sorbitan monopalmitate, sorbitan monostearate, sorbitan monooleate, and sorbitan trioleate. These compounds are sold by Atlas Powder Company under the trade names, respectively, "Span 20", "Span 40", "Span 60", "Span 80", and "Span 85". Additional examples of such esters are sorbide monolaurate, sorbide monomyristate, the mannide monoesters of the acids present in distilled coconut oil fatty acids, mannide monostearates, and a mixture of mannitan monostearate, mannide monostearate, mannitan distearate. These esters particularly the monoesters, may be prepared by the methods described in the U.S. Pat. Nos. 3,322,820, and 3,322,821,

to Kenneth R. Brown using as the fatty acid, for example, caproic, caprylic, capric, lauric, myristic, palmitic, oleic, linoleic, linolenic, ricinoleic, stearic, dihydroxy stearic, eleostearic and the like or any mixture thereof, including the fatty acids derived from animal fats and oils and vegetable oils such as lard, sardine oil, whale oil, menhaden oil, coconut oil, soya bean oil, corn oil, olive oil and the like.

2. Polyoxyalkylene derivatives of any one or any mixture of the foregoing hexitol anhydride long chain fatty acid partial esters, particularly the polyoxyethylene derivatives. Examples of such derivatives are polyoxyethylene derivative of sorbitan monolaurate, polyoxyethylene derivative of Sorbitan monopalmitate, polyoxyethylene derivative of sorbitan monostearate, polyoxyethylene derivative of sorbitan trioleate. These polyoxyethylene derivatives are sold by Atlas Powder Company under the tradenames, respectively, "Tween 20", "Tween 40", "Tween 60", "Tween 80" and "Tween 85". They are prepared, in general, by reacting a long chain fatty acid partial ester of a hexitol anhydride with ethylene oxide or other alkylene oxide in large molar excess. Thus, for example, Tween 80 is formed by reacting about 5 mols of ethylene oxide per mol of sorbitan monooleate and Tween 85 is formed by reacting about 20 mols of ethylene oxide per mol of sorbitan trioleate.

3. Polyoxyalkylene derivatives of a glycol long chain fatty acid monoester, particularly the glycol monoesters of fatty acids having at least 12 carbon atoms such as those set forth above. Particularly effective derivatives are the polyoxyethylene derivatives formed by reacting a large molar excess of ethylene oxide with an ethylene, diethylene, propylene, butylene or triethylene, etc., glycol monoester of a fatty acid having from 12 to 18 carbon atoms. The preferred ones are those formed by reacting 20, 25 and 30 mols, respectively, of ethylene oxide per mol of propylene glycol monostearate. They are sold by Atlas Powder Company under the tradenames, respectively, "G-2150", "G-2160" and "G-2170". The product "G-2150" is most effective.

4. Soaps of aliphatic acids, alkyl aryl sulfonates, alkyl aryl polyether sulfonates, fatty alcohol sulfates, and sulfonated aliphatic compounds.

Examples of suitable anionic emulsifiers include all soaps, potassium laurate, triethanol amine stearate, sodium lauryl sulfate, alkyl polyoxyethylene sulfates, and dioctyl sodium sulfosuccinate.

Other examples of suitable emulsifiers are Neutronyx 600, Triton X-100, Ninol 979, and Ethofat 242/20. Others are available. The preferred emulsifier is Promulgen G or D (polyethylene glycol ether complex of higher fatty alcohols).

"Ninols" are trade-marked products of Ninol Laboratories, Chicago, Illinois, made in accordance with Kritchevsky U.S. Pat. No. 2,089,212. They are condensation products of one mole of aliphatic monocarboxylic acid with at least two moles of alkylolamine. The compounds are readily dispersible or soluble in water, are stable in mildly acid and alkaline media, and are effective in the presence of calcium and magnesium ions.

The higher fatty acids (six or more carbon atoms) are preferred for the aliphatic radical. One such compound is Ninol 979. It is 100% active, nonionic, pale amber liquid with a specific gravity of 1.00 corresponding to the product of condensing lauric acid with diethanolamine.

"Ethofats" are trade-marked products of Armour and Company, Chemical Division, Chicago, Illinois. They are a family of fat-derived nonionic surface-active agents. They are polyoxyethylene-glycol esters of fatty acids.

They vary from fluid liquids to soft pastes depending upon length and saturation of the fatty chain and the relative proportion of the polyethylene glycol residue, which factors also control the solubilities.

The polyethylene glycol employed for the material may have a molecular weight from 220 to 2200. The compounds "Neutronyx" are a family of trade-marked materials made by Onyx Oil Chemical Company, Jersey City 2, New Jersey. They are nonionic surface-active agents, functioning as detergents, emulsifiers and dispersants. They vary from liquids to low-melting wax-like solids, all dispersible in water. Being nonionic they are compatible with cationic and other nonionic compounds, such as quaternary ammonium compounds. They are stable in mildly acid and alkaline solutions. Chemically, they are ethers the various kinds being designated commercially by a number:

No. 330—polyalkylether condensate of fatty acids

No. 600—aromatic polyglycol ether, and specifically phenyl ether with polyethylene glycol

No. 834—polyalkyl ether condensate of fatty acids

"Neutronyx 600" is miscible in all proportions in water, has specific gravity of about 1, and in a 1% solution in water a pH of 7.3.

The "Tritons" are trade-marked materials of Rohm and Haas, Philadelphia 5, Pa. They vary from nonionic, to cationic and anionic activity, and are stable in strong acid and alkaline solutions.

The oil phase described above may also include emollients such as cetyl alcohol, which also functions as a stiffening agent, propylene glycol, glycerine, triethylene glycol, spermaceti or other waxes, perfumes and/or pharmaceuticals, as well as film formers, deodorants, opacifiers, astringents, solvents and the like. In addition, stabilizers can be added to enhance the shelf life of the oil phase such as non-ionic surfactants, cellulose derivatives, protein and lecithin. All of the above types of materials are known in the art as additives of cream formulations.

The oil phase impregnated in the article of the invention upon the addition of water thereto, forms a cream or a less viscous lotion. In effect, that portion of the oil phase which comes into contact with moisture becomes emulsified. The phenomena can be described as micro-emulsification, that is emulsification of the oil phase at the point of contact with moisture which point will be that portion of the user's skin which contacts the oil phase. Thus, complete emulsification of the entire oil phase impregnated in the article of the invention is avoided with the result that the oil phase impregnant is long lasting and is not exhausted after a single use. Furthermore, if a medicament or pharmaceutical is also incorporated into the oil phase, it will be used up in amounts corresponding to the amount of oil phase emulsified at any one time. Thus, the oil phase carrying the medicament or pharmaceutical can be characterized as a sustained release carrier. The length of time for sustained release of the cream and medicament is regulated by the melting point of the finished solid oil phase formulation, and the ease of emulsification thereof which is controlled by the amount and type of emulsifiers employed. Varying rates of emulsification

will be desired depending upon whether the oil phase is impregnated in an article of apparel or an applicator for the cream formulation. For example, where a paper product or applicator is impregnated with the oil phase, a low melting point oil phase formulation will be desired since the paper product will probably be of the one time use-throw-away type, so that rapid and total emulsification is effected during the single use. With this type of product, it is preferred to employ an oily material which is liquid at room temperature as opposed to paraffin or petrolatum.

One of the essential features of the article of the invention is that the oil phase impregnated therein is a dry non-oil non-greasy solid at room temperature. The formulation of such an oil phase impregnant can only be obtained by impregnating the article or substrate with a non-aqueous homogeneous liquid mixture of the components of the oil phase, such as by spraying the liquid mixture onto the article or substrate or dipping the article or substrate into the liquid oil phase until a desired amount is absorbed therein. Thereafter the article having the oil phase impregnated therein is cooled to cause the oil phase to solidify and form a non-oily dry solid at room temperature.

Generally, in forming the homogeneous liquid mixture forming the oil phase, it will be necessary to heat the components above the melting point of the highest melting component in the mixture so that all solids are reduced to liquid form. This can also be accomplished by mixing with the components of the oil phase non-aqueous solvents, such as acetone, chloroform, trichloroethylene, xylene, xylol, as well as other ketones, chlorinated hydrocarbons and aromatic solvents, with or without heating, to form a homogeneous liquid mixture of all components. The resulting liquid can then be applied to the article or substrate as described above and cooled to form a solid oil phase which has a smooth, non-sticky almost slippery finish.

Where upon cooling and solidification of the oil phase, one or more of the solvents mentioned above does not form a solid, these solvents may be easily removed from the remaining solids by, for example, wiping or expression.

The above process wherein a solvent is employed to cause complete dissolution of the components of the oil phase is desirable where heat is not compatible with the article or substrate to be impregnated. Furthermore, heating is not essential where such solvents are employed.

It is essential that water not be present in the oil phase before emulsification is desired. If water is present during the formation of the homogeneous liquid mixture of the oil phase components, even upon drying over steam over steam rolls and the like, all of the water may not be removed; the result is that upon cooling and attempted solidification of the oil phase components, a tacky sticky product is produced.

The article or substrate treated with the homogeneous liquid mixture of oil phase components will be impregnated or coated with such oil phase depending upon the porosity or absorbability of such article or substrate.

The following are some of the specific applications of the present invention:

1. Impregnation of the lining of rubber or plastic gloves.

- a. Provides cosmetic hand care treatment by merely wearing gloves.
- b. Provides lubrication for easier insertion of hands and removal of gloves
- c. hot hand care treatment by placing hands in hot water such as when doing dishes.
2. Impregnation of dress or work glove lining. Provides cold weather hand care treatment and lubrication.
3. Impregnation of glove liner for winter sports such as skiing. In addition to cold weather hand care treatment and lubrication for ease of insertion and removal, the impregnated liner forms an extremely effective thermal barrier.
4. Impregnation of diaper liners and sanitary napkin covers. To prevent or eliminate chafing due to friction.
5. Impregnation of tissues and towels, both woven and non-woven fabrics.
 - a. Cleansing
 - b. Lubricating
 - c. Softening
 - d. Moisturizing
 - e. Protecting

In addition, articles or substrates impregnated with the dry non-aqueous oil phase will have long shelf life if kept in a dry cool place since the solid oil phase will not be actuated until addition of moisture thereto.

The following examples represent preferred embodiments of the present invention.

EXAMPLE 1

About 40 g. light mineral oil, about 40 g. Promulgen G (that is polyethylene glycol ether complex of higher fatty alcohols produced by Robinson-Wagner) and about 20 g. of cetyl alcohol are heated at a temperature of about 90°C while mixing until all solids are dissolved and a homogeneous liquid mixture is formed.

A glove lining is dipped into the mixture for a few seconds until saturated. The glove lining is then removed and allowed to cool at room temperature. The resulting product is found to have a smooth, non-sticky, almost slippery finish comprising the oil phase of a cream formulation.

Where the so treated glove lining is employed as a liner for rubber gloves and the combination employed while washing dishes with hot water, it is found that the perspiration released by the hands causes a light cream coating to form on the hands which is an effective barrier to prevent moisture evaporation from the hands.

EXAMPLE 2

The procedure of Example 1 is repeated except that an oil phase formulation comprising about 30 g. of Promulgen G (described in Example 1) is employed.

EXAMPLE 3

About 35 g. of light mineral oil, about 25 g. of Promulgen G and about 10 g. of cetyl alcohol are mixed together until a homogeneous liquid mixture is formed as described in Example 1. 300 g. Trichlorethylene as a solvent is admixed with the above liquid mixture. The above mixture is sprayed on paper tissue to form an oil phase coating thereon or the tissue may be dipped into such mixture until saturated. The oil phase coating and solvent mixture are allowed to dry until a dry non-oily

solid oil phase is formed while the tissue remains soft and supple.

The tissue may be employed as a cleansing tissue so that upon application of moisture thereto the oil phase coating is emulsified to form a cleansing cream.

EXAMPLE 4

Following the procedure of Example 1, a tissue was impregnated with a homogeneous liquid mixture comprising 30 g. Tween 80 and 50 g. of heavy mineral oil. The resulting tissue remained soft and supple and may be employed as a cleansing tissue so that upon application of moisture thereto the oil phase impregnated therein emulsifies to form cleansing cream.

EXAMPLE 5

Following the procedure of Example 1, a tissue was impregnated with a homogeneous liquid mixture comprising 30 g. SPAN 80, and 50 g. paraffin. The resulting tissue remained soft and supple and may be employed as a cleansing tissue so that upon application of moisture thereto the oil phase impregnated therein emulsifies to form a cleansing cream.

EXAMPLE 6

Following the procedure of Example 1, a tissue was impregnated with a homogeneous liquid mixture comprising 30 g. Span 80, 50 g. paraffin and 10 g. cetyl alcohol. The resulting tissue remained soft and supple and may be employed as a cleansing tissue so that upon application of moisture thereto the oil phase impregnated therein emulsifies to form a cleansing cream.

What is claimed is:

1. An article to place in contact with the body for use in applying a cosmetic or therapeutic substance to the skin, comprising a substrate and a therapeutic or cosmetic composition carried by said substrate and comprising the oil phase of a cream formulation, said oil phase being a dry emulsifiable solid, which upon addition of moisture thereto forms an oil in water or water in oil emulsion.

2. The article of claim 1 wherein said oil phase comprises an oily material and an emulsifier.

3. The article of claim 2 wherein said oily material is selected from the group consisting of mineral oil, paraffin, petrolatum, vegetable oil, linseed oil, olive oil and isopropyl palmitate.

4. The article of claim 2 wherein said emulsifier is selected from the group consisting of cetyl alcohol, polyethylene glycol ether complexes of higher fatty alcohols, fatty acid soaps of organic bases selected from the group consisting of triethanolamine oleate, triisopropyl amine laurate, monoethyl amine stearate and diethyl amine palmitate, surface active agents selected from the group consisting of long chain fatty acid partial esters of a hexitol anhydride, and a polyoxyalkylene derivative of a long chain fatty acid monoester of a glycol, wherein the fatty acid contains 6 to 18 carbons, soaps of aliphatic acids, alkyl aryl sulfonates, alkyl aryl polyether sulfonates, fatty alcohol sulfates and sulfonated aliphatic compounds.

5. The article of claim 2 wherein said oily material comprises mineral oil and said emulsifier comprises a polyethylene glycol ether complex of higher alcohols.

6. The article of claim 5 wherein said oil phase further includes cetyl alcohol.

7. The article of claim 2 wherein said oil phase comprises, in addition one or more emollients, dyes, perfumes and/or pharmaceuticals.

8. The article of claim 1 wherein said substrate comprises a woven or non-woven material.

9. The article of claim 1 wherein said substrate comprises a tissue.

10. The article of claim 1 wherein said substrate comprises a face mask.

11. The article of claim 1 wherein said substrate comprises a shoe.

12. The article of claim 1 wherein said substrate comprises a foot slipper.

13. The article of claim 1 wherein said substrate comprises a diaper.

14. The article of claim 1 wherein said substrate comprises a bandage.

15. The article of claim 1 wherein said substrate comprises a glove.

16. The article of claim 1 wherein said substrate comprises a diaper liner.

17. The article of claim 1 wherein said substrate comprises a sanitary napkin.

18. The article of claim 1 wherein said substrate is a paper tissue.

19. The article of claim 1 wherein said substrate is a towel.

20. The article of claim 1 wherein said substrate is a paper towel.

21. A method of manufacturing an article for use in

applying a therapeutic or cosmetic substance to the skin, comprising providing a substrate and a therapeutic or cosmetic composition carried by said substrate, said composition comprising the oil phase of a cream formulation in the form of a dry solid, said solid comprising an oily material and one or more emulsifiers, wherein said therapeutic or cosmetic composition is formed by mixing together the oily material and emulsifiers while each material is in a liquid state to form a non-aqueous substantially homogeneous mixture, and while said mixture is in liquid form, applying the mixture to the substrate, and converting the mixture to a non-oily solid.

22. The method in accordance with claim 21 wherein the oily material and emulsifiers are heated to form an all liquid mixture.

23. The method in accordance with claim 22 wherein the liquid mixture is converted to a solid by cooling.

24. The method in accordance with claim 21 wherein the oily material and emulsifiers are mixed together in the presence of a solvent causes the oily material and emulsifiers to form a liquid mixture.

25. The method in accordance with claim 24 wherein the liquid mixture of the oily material and emulsifiers is converted to a solid by removing the solvent from the mixture.

26. The method of claim 22 wherein the oily material and emulsifiers are heated to at least the melting point of the highest melting component.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,896,807 Dated July 29, 1975

Inventor(s) GILBERT BUCHALTER

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, Line 29, "3,489,884" should read: - 3,489,148 - .

Column 1, Line 38, "may e" should read: - may be - .

Column 2, Line 51, "Where the article of the invention" should read: - Where the article of apparel of the invention - .

Column 10, Line 21, insert "which" between "solvent" and "causes".

Signed and Sealed this

eleventh Day of November 1975

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks