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SHAVING ASSISTING COMPOSITION

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This invention relates to a shaving assisting composition. More particularly, this invention relates to a shaving assisting composition for use with razor and blade.

The idea of using various lubricants for the beard of males while shaving is a well developed art. In other words, shaving lotions or creams as they are called, of various sorts have usually included oily materials such as fats in order to lubricate the beard prior to shaving with a razor and blade. An even older and more prevalent method of shaving includes applying a high lather soap emulsion to the face prior to shaving. The lather is useful in setting up the beard by virtue of the foamy aggregate. By including a fatty substance or oil in the soap producing the lather, a further lubrication effect can be achieved.

Many disadvantages are attendant the use of shaving creams and shaving soaps in the art of shaving. For instance, these shaving aids do very little in the way of acting as a lubricant for the razor blade. Additionally, very little protection is afforded for the skin and finally the razor blade itself is exposed to considerable quantities of water within the material employed so that the blade becomes dulled much too quickly than should be the case from mere usage.

Accordingly, it is a primary object of the present invention to provide a shaving lotion or cream which provides unique properties to facilitate shaving.

It is another object of the present invention to disclose a shaving lotion or cream which acts to protect the razor blade between uses by providing a coating thereon.

It is yet another object of the present invention to provide a shaving lotion or cream having lubricating qualities for a razor blade during the shaving process.

It is still another object of the present invention to provide a shaving lotion or cream having the ability to render the whisker of a beard in such a position as to facilitate its being cut easily.

These, together with other objects and advantages which will become subsequently apparent reside in the details of the composition as more fully hereinafter described and claimed.

The shaving lotion or cream of the present invention contains four important ingredients.

The first ingredient is a silicone fluid which is usually defined as a polymeric organosiloxane composed of multiples of the following structure:



where R is a hydrocarbon radical. It will be noted that Dow Corning Co. produces a considerable number of these silicone fluids. In particular, the following are employed in the composition of the present invention: methyl phenyl polysiloxanes and dimethyl polysiloxanes commercially available as D-C 555 Fluid and D-C 200 Fluid re-

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spectively, the fluids varying in centistoke viscosities. The former of these two silicone fluids has good solubility in alcohols, whereas the dimethyl polysiloxanes are substantially insoluble. In this connection note is taken of the publication by R. R. McGregor, "Silicones in Medicine and Surgery," page 8 (1957); also to U.S. Patent No. 2,589,317 (1952), column 2, lines 1 to 22; and U.S. Patent No. 2,698,824 (1955), column 4, lines 21 to 24 and lines 41 to 44.

A second ingredient is a non-ionic surface-active agent or several surface-active agents of the same type. Principal non-ionic surface-active agents are polyoxyethylene derivatives such as are known commercially as Spans, Tweens, Arlacels and many others.

A third important ingredient in the present composition is an ionic surface-active agent which may be either anionic or cationic. Representative examples of such anionic surface-active agents applicable to the present invention are dioctyl sodium sulfosuccinate, sodium lauryl sulfate, various soaps, alkyl sulfonates, alkyl aryl sulfonates, sulfates of long chain aliphatic alcohols, sulfated monoalkyl esters of glycerol and sulfated amides. The cationic surface-active agents employed may be such compounds as benzalkonium chloride, quaternary ammonium salts etc. While several quaternary ammonium salts may be used in one formula or several anionic surface-active agents may be used in a single formula, anionic and cationic surface-active agents should not be mixed in a single formula because of their inherent incompatibility.

The fourth material in the shaving lotion of the present invention is the vehicle. The vehicle may be water, or more preferably, ethyl or isopropyl alcohol. Additionally, it may be methylcellulose, glycerol, polyethylene glycols with a molecular weight above 1000, d-sorbitol and mixtures of these and similar types of ingredients. The vehicle employed for carrying the various silicone fluids, anionic or cationic surface-active agents and non-ionic surface-active agents may vary. It has been found that ethyl or isopropyl alcohol is preferable because of its ability to render soluble the various silicone fluids employed. It has also been found that methylcellulose is an excellent carrier since it forms a suspension of the silicone fluids, thereby helping spread them over the face and whiskers and enhances the action of the shaving lotion or cream. When glycerin, propylene glycol and d-sorbitol are used as vehicles along with solid polyethylene glycols having a molecular weight of 1000, humectant attributes are derived therefrom thereby maintaining moisture on the whisker and skin. It will be appreciated that moisture on the whiskers increases or enhances the ability of the razor blade to cut the whisker.

The particular silicone fluids applicable to the present invention have been stated in the above. In other words, the viscosity ranges of between 100 to 1000 centistokes is considered the best. This selection is based upon the fact that these two silicone fluids provide excellent protection for the skin, reduce the friction of the blade going over and through the whiskers, protect the blade and thus increase its useful life and have low toxicity and sensitivity characteristics. In other words both fluids identified in the above are employed in the shaving lotion or cream of the present invention.

The fact that the composition of the present invention consists of four essential ingredients does not eliminate the idea of adding other ingredients such as menthol, per-

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fume, tannic acid, witch hazel or other astringent-like substances which render the resultant product double acting. Furthermore, the shaving lotion of the present invention may be prepared as a lotion, cream or may be dispensed in a pressure vessel. Accordingly, other ingredients may be added to facilitate such a final product.

Since the ingredients of the present invention may vary in quantities over a considerable range, the following table is provided to illustrate the ranges in percentages by weight of the various ingredients when included:

TABLE

Ingredients Which May Be Used in the Formula	Range of percent by weight That May Be Used
555-Silicone Fluid	5 to 25.
200-Silicone Fluid, 20 to 100 (centistokes)	5 to 25.
Diocetyl Sodium Sulfosuccinate (Aerosol OT)	0.01 to 1.
Sodium Lauryl Sulfate	0.01 to 10.
Non-Ionic Surface-Active Agents (such as Spans, Tweens, Arlacels, etc.)	1 to 25.
Water	10 to 80.
Alcohol, Ethyl, Isopropyl	10 to 80.
Triethanolamine	0.01 to 2.
Cationic Surface-Active agents such as Benzalkonium Chloride (Quaternary Ammonium Salts).	0.0001 to 0.001.
Methylcellulose (of varying viscosity grades up to 8,000).	5 to 50.
Humectant (such as glycerin, d-Sorbitol)	1 to 20.
Mineral Oil or other fixed oils of animal or vegetable origin.	5 to 25.

In order to more fully understand the invention, actual examples of specific types of the formula of the present invention are set forth below. The ingredients in each of the formulas are compounded together in a conventional manner by adding each ingredient in any succession desired accompanied by suitable stirring to provide proper distribution in the final product.

Example I

555-Silicone Fluid	cc	20
200-Silicone Fluid (350 centistokes)	cc	20
Tween-20	cc	20
Tween-80	cc	20
Alcohol, ethyl, 95%	cc	30
1% solution of dioctyl sodium sulfosuccinate	cc	110

Example II

555-Silicone Fluid	cc	10
200-Silicone Fluid (350 centistokes)	cc	10
Tween-80	cc	10
Tween-20	cc	10
2% solution dioctyl sodium sulfosuccinate	cc	40
Ethyl alcohol, 95%	cc	90

Example III

Tween-80	cc	15
Tween-20	cc	15
555-Silicone Fluid	cc	15
200-Silicone Fluid (100 centistokes)	cc	15
2% solution dioctyl sodium sulfosuccinate	cc	15
2% solution methylcellulose 4000	cc	60

Example IV

Tween-20	cc	15
Tween-80	cc	15
200-Silicone Fluid (350 centistokes)	cc	20
555-Silicone Fluid	cc	20
2% solution dioctyl sodium sulfosuccinate	cc	20
Ethyl alcohol, 95%	cc	20
Carbowax-4000	grams	100

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Example V

Mineral oil	cc	15
555-Silicone Fluid	cc	15
Olive oil	cc	10
Tween-80	cc	5
Tween-20	cc	5
Triethanolamine	cc	1
1% solution bioctyl sodium sulfosuccinate	cc	30

Example VI

555-Silicone Fluid	cc	20
200-Silicone Fluid (100 centistokes)	cc	10
Tween-80	cc	5
1% solution sodium lauryl sulfate	cc	10
1% solution dioctyl sodium sulfosuccinate	cc	10
Ethyl alcohol, 95%	cc	55

It has been discovered that there is a synergistic action between the non-ionic and ionic surface-active agents and silicone fluids which thereby sets up a system of shaving with or without an additional conventional shaving cream, protects the skin and leaves the skin with a smooth well shaved feeling.

Without further analysis, it will be appreciated that the objects of the present invention have been met. In other words, a shaving lotion or cream has been disclosed in the above which is clearly useful in both protecting the razor blade and the skin of an individual employing such a shaving lotion or cream. Furthermore, each of the ingredients in the shaving lotion has a specific function of its own and a composite function dependent upon a synergistic action.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact formulation or range shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed is:

1. A shaving assisting composition comprising a methyl phenyl polysiloxane fluid and a dimethyl polysiloxane fluid, said fluids being in substantially equal amounts in a total quantity of between 10% to 50% by weight, a quaternary ammonium cationic surface-active agent in a quantity of between about 0.0001% to 0.001%, a non-ionic surface-active agent derived from polyoxethylene in a quantity of between about 1% to about 25% and a vehicle selected from the group consisting of ethyl alcohol, isopropyl alcohol and mixtures thereof in a quantity of between about 5% to 80%.

2. The shaving assisting composition of claim 1 wherein the quaternary ammonium cationic surface-active agent is benzalkonium chloride.

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