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ANTISEPTIC DETERGENT COMPOSITION

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This application is a continuation-in-part of application S.N. 387,182 filed Aug. 30, 1964, which is now abandoned.

This invention relates to a novel liquid antiseptic detergent composition useful as a skin cleanser. More particularly, it is concerned with compositions of this type which contain a dissolved oil and a dissolved antiseptic in an aqueous detergent media.

In the past, attempts to prepare such useful compositions of this type have failed since both the antiseptic or disinfectant agent and the oil are usually both equally insoluble in water or in aqueous detergent solvent media under the standard conditions normally employed. However, in accordance with the teachings of the present invention, these drawbacks of the prior art have now been largely overcome, thus rendering it possible for the first time to prepare a system which will keep the recommended antiseptic levels of such well-known disinfectant agents as hexachlorophene, bithional, fluorophene, p-chloro-m-xyleneol, and the like, as well as 5% or more of an oil, like a vegetable, animal or a mineral oil, in a clear aqueous detergent solution and keep said resulting composition stable.

In accordance with the present invention, the clear liquid antiseptic detergent composition, which is useful as hand soap or skin cleanser, comprises from between about 0.1% to about 6% by weight of a disinfectant agent, from about 10% to about 20% by weight of a water-soluble organic anionic detergent, from about 2% to about 8% by weight of a super fatting agent selected from the group consisting of synthetic, animal, vegetable and mineral oils, and from about 1% to about 5% by weight of a polyethylene glycol ether derived from higher fatty alcohol of from 10 to 22 carbon atoms wherein the chain length of the said polyethylene glycol ranges from about 1.5 to about 20, and sufficient water to total 100%, with the resulting composition always being maintained in the pH range of from between about 5.0 to about 8.5. This product, therefore, functions as a clear detergent skin cleanser in solution form (i.e., in the form of a homogeneous emulsion) and may contain one or more of the aforementioned antiseptic or disinfectant agents, as will be more fully hereinafter described, together with a solubilized super fatting agent in conjunction with the other essential additives previously mentioned.

Preferred antiseptics or disinfectant agents for use in this connection include such bacteriostatic agents or bacteriocides, as the case may be, as hexachlorophen, fluorophene, p-chloro-m-xyleneol, bithionol, biphenamine hydrochloride, and a synergistic mixture comprising essentially 20% of 5,4'-dibromosalicylanilide and 80% of 3,5,4'-tribromosalicylanilide, although it is clearly understood that the invention is certainly not limited in this respect. The bacteriostatic agent must, however, be preferably within the aforestated concentration range of from between about 0.1% to about 6% based on the total weight of the composition, and this would, of course, include the normally accepted or recommended levels of the individual antiseptics, such as 3% in the case of hexachlorophene, 2% in the case of bithionol, 0.5% in the case of fluorophene and 2% in the case of p-chloro-m-xyleneol, for example.

The detergents required for this invention as cleansing agents are all selected from the class of organic anionic detergents having surface-active properties such as the sulfated higher fatty acid soaps like sodium or potassium

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lauryl sulfate, sodium α -sulfomethyl myristate or triethylammonium or diethanolammonium α -sulfo-methyl myristate, water-soluble salts of higher alkyl aryl sulfonates such as sodium dodecylbenzenesulfonate and sodium laurylbenzenesulfonate or the water-soluble salts of higher alkyl sulfate detergents such as potassium cetyl sulfate and sodium lauryl sulfate or the water-soluble sulfuric acid esters of polyhydric alcohols that have only partially been esterified with higher fatty acids, such as sodium coconut monoglyceride monosulfate, for instance, or the water-soluble salts of sulfated higher fatty acid amides such as sodium lauric monoethanolamide sulfate, etc. The preferred detergent of choice in this connection is the sodium salt of α -sulfomethyl myristate since it is easily bio-degradable, relatively inexpensive, does not de-fat the skin to any great extent, is non-irritating and non-sensitizing to the touch, and will form excellent soap suds in addition to being a good foam generator. The corresponding triethylammonium and diethanolammonium salts of α -sulfomethyl myristate also serve as excellent alternative for these purposes i.e., as preferred acceptable detergents in this connection. Additionally, various N-acyl ester salts of sarcosine are also useful in this connection such as the sodium, potassium, ammonium and triethanolammonium salts of N-acyl sarcosines wherein the acyl moiety is derived from an aliphatic hydrocarbon carboxylic acid having from ten to eighteen carbon atoms. Illustrative of these type materials are such compounds as sodium N-lauroyl sarcosinate, triethanolammonium N-lauroyl sarcosinate, potassium N-oleoyl sarcosinate, ammonium N-stearoyl sarcosinate, etc., with the preferred member being the triethanolammonium salt of N-lauroyl sarcosine.

The super fatting agent or emollient is either a vegetable, animal or mineral oil or a synthetic oil, as previously indicated and it must be present within the aforestated concentration range of from about 2% to about 8% by weight. This particular type ingredient is necessary so as to replace the natural skin oils which are lost or, at least, partially removed by the cleansing action of the detergent. Its primary purpose, therefore, is to leave the skin soft and smooth rather than stiff and chapped. In addition, it also serves to dissolve and maintain the oil-soluble antiseptics in solution, with the branched chain oils being preferred to the straight chain oils for this purpose. Examples of oils which can be used in this connection include water-soluble derivatives of lanolin, various light-white mineral oils, a modified triglyceride of coconut oil, squalene or spinacene, and a commercial mixture of branched chain fatty acid esters derived from synthetic duck preen gland oil, in addition to synthetic oils such as isopropyl linoleate, di-isopropyl adipate and n-decyl oleate, etc.

The last remaining key ingredient in the compositions of this invention, other than water, is a polyethylene glycol ether derived from a lauryl, stearyl or oleyl alcohol, for example, and wherein the chain length of the said polyethylene glycol unit may range from about 1.5 up to about 20. The concentration range for this ingredient, which functions as a solubilizer and/or emulsifier for the super fatting agent, is stated to be from about 1% to about 5% by weight, as previously indicated. These particular glycol ethers are necessary in order for complete homogeneity to occur in the aqueous-oil system containing the bacteriostatic agent and the dissolved detergent therein. The preferred ethers for these purposes are the oleyl ethers of polyethylene glycol and particularly those which contain a glycol moiety in the aforestated unit chain length range.

The resulting final composition must also be maintained within the aforestated pH range of from between about 5.0 to about 8.5 in order to avoid any unnecessary irritating action on the surface of the skin. To ensure that the

pH be maintained within this range, small amounts (1-5%) of non-toxic acidic substances may have to be added, such as hydrochloric acid, sulfuric acid, phosphoric acid, citric acid, stearic acid, lactic acid, gluconic acid or potassium acid tartrate, for example. Lactic acid is preferred in these instances, since it is a natural skin acid which will neutralize the soap to a pH of about 5.0-8.5, with the preferred range being pH 5.5-6.5. Additionally, it is also considered to be the most important organic acid naturally influencing the pH of the skin.

Other ingredients or additives and their amounts which the compositions of this invention may contain, although they are not absolutely essential, are a fatty acid alkanolamide (2-5%), a chelating agent (0.02%), a thickener (0.1-2%), a dye (trace amounts) and a soap perfume (0.1-0.5%). The fatty acid alkanolamide, which serves as a foam booster and stabilizer, can be any standard compound of this type, although caproic acid diethanolamide is preferred since it affords complete clarity in aqueous solutions. However, coconut acid diethanolamides are also equally useful for this purpose, as are various amine oxides such as those of the formula $R_1R_2R_3N \rightarrow O$ where R_1 is an alkyl radical of from ten to sixteen carbon atoms and R_2 and R_3 are either methyl or ethyl radicals. Examples of these latter type compounds include lauryl dimethylamine oxide and cetyl dimethylamine oxide, etc. The chelating agent acts as a color stabilizer and ethylenediamine-tetraacetic acid (EDTA) disodium salt has been found to be extremely useful for this purpose, although any number of standard chelating agents will do the job here. The main idea is to prevent hazing in the product from occurring due to the presence of calcium and magnesium contaminants in the mixture and to protect the phenolic antiseptics from discoloration due to the presence of iron. The thickening agents serve as viscosity builders and include carboxymethylcellulose, methylcellulose, sodium chloride, the polyox resins of the Union Carbide Chemical Co., and so on. The dye, which may be present in trace amounts varying from about 0.002% to 0.005%, is obviously present for coloring purposes. F.D. & C. Blue No. 1 is preferred since when small amounts of this dye are combined with the natural light yellow color of the soap mixture, a pale-green tint results. However, F.D. & C. Green Dye No. 5 works equally as well for the purposes at hand. The perfume, which provides the pleasant scent, can be any standard acceptable soap perfume.

In carrying out the process of the present invention to prepare these novel compositions, the constituents are usually mixed together at a temperature below the boiling point of water and slightly above room temperature, i.e., one which lies within the approximate range of from about 35° C. to about 90° C., with the preferred range in practice being from between about 50° C. to about 80° C. Normally, the disinfectant agent is dissolved in the oil phase, if water-insoluble, and the detergent dissolved in the aqueous phase and the two are then mixed together when at at temperature in the aforesaid range. The polyethylene glycol ether is always present in the oil phase, while the chelating agent and the fatty acid alkanolamide are always first placed together in the aqueous phase along with the detergent. The pH adjustment, if need be, is always made before the mixing of the two phases and again, checked afterwards. The dye is usually added to the aqueous phase after the pH adjustment has been made, and the perfume can either be dissolved in the oil phase first or added afterwards, just before the final composition is allowed to cool to room temperature.

Alternatively, it also is possible in preparing a liquid hand soap or skin cleanser to combine all the main ingredients together first and then to heat the mixture to the desired temperature range, with stirring, until complete homogeneity is obtained. The pH adjustment, the dye addition and perfume "tailoring" can then be made immediately afterwards. In either case, a clear sparkling de-

tergent solution or homogeneous emulsion is always obtained, which is both clear and stable to the eye for long periods of time afterwards at various temperatures in the 5-50° C. range.

In summary, therefore, the present invention provides novel liquid antiseptic detergent compositions of the type hereinbefore described, which are useful as liquid hand soaps or skin cleansers. A particularly useful composition of this invention illustrating a preferred embodiment of same is one comprising from between about 0.1% to about 6% by weight of a disinfectant agent, from about 12% to about 20% by weight of the triethanolammonium salt of N-lauroly sarcosine, from about 2% to about 5% by weight of a mineral oil and from about 1% to about 4% by weight of the oleyl ether of polyethylene glycol, and sufficient water to total 100%, with the pH of said mixture being maintained in the range of from about between about pH 5.5 to about pH 6.5.

This invention is still further illustrated by the following examples, which are not to be construed in any way or manner as imposing limitations upon the scope thereof. On the contrary, it is to be clearly understood that resort may be had to various other embodiments, modifications and equivalents thereof which readily suggest themselves to those skilled in the art without departing from the spirit of the present invention and/or the scope of the appended claims.

Example I

A liquid antiseptic detergent composition was prepared by first blending the following materials together in the proportions by weight indicated below:

	Percent
Methylcellulose, 1.0%	35.4
Sodium α -sulfomethyl myristate, 30%	45.0
Caproic acid diethanolamide	2.5
Glycerin	3.0
EDTA, ¹ disodium salt	0.1
p-Chloro-m-xyleneol	1.0

¹ EDTA=ethylenediamine-tetraacetic acid

The above ingredients were combined, heated to 65° C. with gentle stirring of the mixture and allowed to stand at this point to obtain a clear solution. Adjustment of the pH to a value of pH 5.5 was then accomplished by the addition of 85% lactic acid in aqueous solution; it was found that 0.8 part by weight of said acid were required to effect this change with respect to the total weight of the final composition. F.D. & C. Blue Dye No. 1 (0.2 mg.) and F.D. & C. Yellow Dye No. 10 (0.3 mg.) were then added to the warm mixture, followed by the addition of an oil phase at 65° C. having the following composition wherein the amounts stated represent, as in the aqueous phase, the parts by weight of each ingredient present in the final composition:

	Percent
Vegetable Oil No. 1400 (Neobee M-5) ¹	6.0
Glycerol monooleate	1.0
Amerchol L-101 ²	1.0
Oleyl alcohol	1.0
Alkanol OA ³	2.0
Alkanol OJ ⁴	0.2
Hexachlorophrene	1.0

¹ Vegetable Oil No. 1400 (Neobee M-5) is a modified triglyceride of coconut origin.

² Amerchol L-101 is a commercially available lanolin sterol.

³ Alkanol OA is the trademark name of Du Pont for an oleyl ether of polyethylene glycol wherein the average chain length of the polyethylene glycol moiety is 1.5.

⁴ Alkanol OJ is the trademark name of Du Pont for an oleyl ether of polyethylene glycol wherein the average chain length of the polyethylene glycol moiety is 10.

The oil phase had previously been mixed and then heated to 70° C. until a clear solution was obtained. After the addition of the oil phase to the water phase at 65° C., the resulting mixture was cooled rapidly to 45° C. and perfumed with 0.5 ml. of Lueder's Soap Perfume SF 6897.

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and then stirred gently to room temperature. The final composition was clear at both 50° C. and 37° C., as well as at room temperature (~25° C.).

Example II

A liquid antiseptic composition was prepared by first blending the following materials together in the proportions by weight indicated below:

	Percent
Methylcellulose, 1.5% -----	35.6
Sodium α -sulfomethyl myristate, 30% -----	45.0
Caproic acid diethanolamide -----	5.0
EDTA, disodium salt -----	0.1
Solulan 75 ¹ -----	0.4
p-Chloro-m-xyleneol -----	1.0

¹ Solulan 75 is water-soluble lanolin derivative.

The above ingredients were combined, heated to 60° C. with gentle stirring of the mixture as in Example I and adjusted to pH 5.5 with 2.90 parts by weight of 85% lactic acid, based on the total weight of the composition. F.D. & C. Blue Dye No. 1 (1.5 mg.) was then added to the mixture at 70° C., followed by the addition of a clear oil phase at 70° C. having the following composition wherein the amounts stated represent, as in the aqueous phase, the parts by weight of each ingredient present in the final composition:

	Percent
Vegetable Oil No. 1400 (Neobee M-5) -----	2.5
Caproic acid diethanolamide -----	5.0
Alkanol OA -----	1.5
Alkanol OJ -----	0.5
Bithionol -----	0.5

After the addition of the oil phase to the water phase at 70° C., the resulting mixture was stirred gently and the pH (now 7.0) readjusted to pH 5.5 with more lactic acid. Upon cooling the stirred mixture to 45° C., 0.5 ml. of Ungerer's Lavender Soap Perfume No. 979 was added as perfume and the slow agitation of the mixture was then continued until room temperature was attained. The resulting composition was clear at 50° C., 37° C. and 25° C., respectively.

Example III

The procedure described in Example II was essentially followed except that Diaphene at the 0.3% level was the antiseptic agent of choice employed in place of bithionol in the oil phase at 0.5%. Diaphene is the registered trademark name of Stecker Chemicals, Inc. of Ho-Ho-Kus, N.J. for a synergistic mixture comprising essentially 20% of 5,4'-dibromosalicylanilide and 80% of 3,5,4'-tribromosalicylanilide. The oil phase, which now contained Vegetable Oil No. 1400 (Neobee M-5) at the 3.0% level, was added to the water phase at 50° C. with gentle stirring of the mixture. The pH was then readjusted from 6.8 to 5.5 with lactic acid and stirring was then continued until a temperature of 45° C. was reached. At this point, 0.5 ml. of Seely Bouquet No. 103,163 was added as perfume and the resulting mixture was stirred gently to room temperature. The final composition was a sparkling clear liquid soap, soft on the hands and a good foamer. I was also clear at all three temperatures tested, viz., 50° C., 37° C. and 25° C., respectively.

Example IV

The procedure described in Example I was followed to prepare a liquid antiseptic detergent composition containing Pur-Cellin oil instead of the aforementioned vegetable oil in the oil phase of the composition. Pur-Cellin oil, a mixture of branched chain higher fatty acid esters, is a synthetic duck green gland oil manufactured by Dragoco, Inc. In this particular case, the water phase contained 1.0% carboxymethylcellulose at the 41.4% level rather than at 35.4% and the caproic acid diethanolamide was at 3.0% instead of 2.5%. The oil phase contained the

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Pur-Cellin oil (perfumed T-173-1) at 5.0%, together with Alkanol OA at 2.0% and Alkanol OJ at 0.5%, as well as hexachlorophrene at 1.0%, but it did not contain any other ingredients. It was added to the water phase at 60° C. and the same procedure as in Example I was again followed. In this manner, a clear pale-green liquid soap was obtained, which had a heavy scent. It was clear at 50° C., 37° C. and 25° C., respectively.

Example V

A liquid antiseptic detergent composition was prepared by first blending the following materials together in the proportions by weight indicated below:

	Percent
Water, distilled -----	40.9
Sodium α -sulfomethyl myristate, 30% -----	45.0
Caproic acid diethanolamide -----	4.0
EDTA, disodium salt -----	0.1
N-(3-chloroallyl)-hexaminium chloride -----	0.5

The above ingredients in the aqueous phase were combined in the usual way, i.e., as in the previous examples, and the pH of the mixture was adjusted to pH 5.5 with 2.0 parts by weight of 85% aqueous lactic acid, based on the total weight of the composition. F.D. & C. Blue Dye No. 1 (0.3 mg.) was then added to the mixture, followed by the addition of an oil phase at 65° C. having the following composition wherein the amounts stated represent, as in the aqueous phase, the parts by weight of each ingredient present in the final composition:

	Percent
Mineral oil, light -----	4.0
Alkanol OA -----	2.0
Alkanol OJ -----	0.5
Hexachlorophrene -----	1.0

Alpine No. 7774 (0.5 ml.) was then added as perfume, and the resulting mixture slowly cooled to room temperature with stirring. The product obtained in the manner was a pale-green liquid soap having good foaming properties. It was clear in appearance at 50° C., 37° C., 25° C. and 5° C., respectively.

Example VI

A liquid antiseptic detergent composition was prepared by first blending the following materials together in the proportions by weight indicated below:

	Percent
Water, distilled -----	43.6
Sodium α -sulfomethyl, 30% -----	45.0
Caproic acid diethanolamide -----	3.0
EDTA, disodium salt -----	0.1

The above ingredients in the aqueous phase were combined in the usual way and pH of the mixture was adjusted to pH 5.5 with 1.5 parts by weight 44% aqueous lactic acid, based on the total weight of the composition. F.D. & C. Blue Dye No. 1 (1.0 mg.) was then added to the mixture, followed by the addition of an oil phase at 60° C. having the following composition wherein the amounts stated represent, as in the aqueous phase, the parts by weight of each ingredient present in the final composition:

	Percent
Pur-Cellin oil (perfume 9501) -----	4.0
Alkanol OA -----	2.0
Alkanol OJ -----	0.5
Fluorophene -----	0.3

The resulting mixture was slowly cooled to room temperature with gentle stirring and then filtered to remove dust particles therefrom before being bottled for subsequent testing. It was found to be highly satisfactory as a stable liquid soap and possessed a sparkling clear appearance to the eye.

Example VII

A liquid antiseptic detergent composition was prepared

by first blending the following materials together in the proportions by weight indicated below:

	Percent
Water, distilled -----	41.0
Sodium α -sulfomethyl, 30% -----	45.0
Caproic acid diethanolamide -----	4.0
EDTA, disodium salt -----	0.1
Biphenamine hydrochloride -----	1.0

The above bacteriostatic agent was dissolved in water first before adding the other "soapy" ingredients. After heating to 60° C. with gentle stirring, the mixture was allowed to stand at this point to obtain a clear solution. Adjustment of the pH to a value of 5.6 was then accomplished with 2.0 parts by weight per weight of the total composition of 44% aqueous lactic acid. F.D. & C. Blue Dye No. 1 (1.0 mg.) was then added to the mixture, followed by an oil phase having the following composition wherein the amounts stated represent, as in the aqueous phase, the parts by weight of each ingredient present in the final composition:

	Percent
Vegetable Oil No. 1400 -----	4.2
Alkanol OA -----	2.0
Alkanol OJ -----	0.5

The oil phase had previously been mixed and then heated to 60° C. prior to the addition. The resulting mixture was then stirred at 60° C. for twenty minutes in order to obtain a clear solution and then cooled to 45° C., at which point 1.0 ml. of Ungerer's Lavender Soap Perfume No. 979 was added. The final composition was slowly cooled to room temperature with gentle stirring and was then bottled for subsequent use. It proved to be a clear liquid soap.

Example VIII

A liquid antiseptic detergent composition was prepared by first blending the following materials together in the proportions by weight indicated below:

	Percent
Water, distilled -----	28.90
Sodium α -sulfomethyl myristate, 30% -----	45.00
Caproic acid diethanolamide -----	4.00
EDTA, disodium salt -----	0.10
Biphenamine hydrochloride -----	2.00

The above ingredients were combined, heated to 55° C. with gentle stirring of the mixture as in Example I and the pH adjusted to pH 5.5 by the addition of two parts by weight of 44% lactic acid with respect to the total weight of the final composition. F.D. & C. Blue Dye No. 1 (0.5 mg.) was then added to the warm mixture, followed by the addition of an oil phase at 55° C. having the following composition wherein the amounts stated represent, as in the aqueous phase, the parts by weight of each ingredient present in the final composition:

	Percent
Vegetable Oil No. 1400 -----	8.00
Polyethylene glycol 1000 monolaurate ¹ -----	5.00
Alkanol OA -----	4.00
Alkanol OJ -----	0.50

¹ Polyethylene glycol 1000 monolaurate is the monester derived from lauric acid and polyethylene glycol of average molecular weight 1000.

The oil phase had previously been mixed and then heated to 65° C. until a clear solution was obtained. After the addition of the oil phase to the water phase at 60° C., the resulting mixture was cooled rapidly to 45° C. and perfumed with 0.5 ml. of Lueder's Soap Perfume SF 6897 and then stirred gently to room temperature. The final composition was a crystal clear liquid product having an average Brookfield viscosity reading of 170 centipoise (cps.) at 25° C. when measured on a #3 spindle at 30 r.p.m.

Example IX

A liquid antiseptic detergent composition was prepared in the manner of Example VIII by combining the following materials together in the proportions by weight indicated below:

H ₂ O phase;	Percent
Water, distilled -----	38.90
Sodium α -sulfomethyl myristate, 30% -----	45.00
Caproic acid diethanolamide -----	3.00
EDTA, disodium salt -----	0.10
p-Chloro-m-xylene -----	2.00
Sodium chloride -----	1.00
Lactic acid, 44% -----	1.50
0.5 mg. F.D. & C. Blue Dye No. 1.	

Oil phase;	
Isopropyl linoleate -----	4.00
Polyethylene glycol 1000 monolaurate -----	2.00
Alkanol OA -----	2.00
Alkanol OJ -----	0.50
0.5 ml. Lueder's Soap Perfume SF 6897.	

The above ingredients were then combined at 65° C. in the usual manner, i.e., the oil phase was added to the water phase, after the pH of the aqueous portion had first been adjusted to pH 5.45 by the addition of the lactic acid. The resulting final composition was a clear liquid hand and/or skin soap of low viscosity.

Example X

A liquid antiseptic detergent composition was prepared in the manner of Example VIII by combining the following materials together in the proportions by weight indicated below:

H ₂ O phase:	Percent
Water, distilled -----	27.00
Sodium α -sulfomethyl myristate, 30% -----	50.00
Caproic acid diethanolamide -----	3.00
EDTA, disodium salt -----	0.10
p-Chloro-m-xylene -----	3.00
Polyethylene glycol 1540 monoleate -----	2.00
Lactic acid, 88% -----	0.50
3.0 mg. F.D. & C. Blue Dye No. 1.	

Oil phase:	
Pure-Cellin oil -----	5.00
Polyethylene glycol 600 monoleate -----	4.00
Alkanol OA -----	2.50
Alkanol OJ -----	0.50
Hexachlorophene -----	3.00
Sweet spice -----	0.40

The above ingredients were then combined at 65° C. in the usual manner, i.e., the oil phase was added to the water phase, after the pH of the aqueous portion had first been adjusted from pH 8.5 to pH 6.1 by the addition of the lactic acid. After the addition of the oil phase, the pH of the final mixture was 5.4. It was allowed to stir gently to room temperature to afford a clear liquid hand soap or skin cleanser.

Example XI

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts indicated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	49.00
Sodium α -sulfomethyl myristate, 30% -----	35.00
Trace, F.D. & C. Blue Dye No. 1.	
Oil phase:	
Decyl oleate -----	8.00
Alkanol OH ¹ -----	5.00
Hexachlorophene -----	3.00

¹ Alkanol OH is the trademark name of Dupont for an oleyl ether of polyethylene glycol wherein the average chain length of the polyethylene glycol moiety is 20.

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The above ingredients are combined at 65° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final composition is then adjusted to pH 8.5. The resulting product is an excellent liquid hand soap or skin cleanser.

Example XII

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts indicated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	50.00
Sodium α -sulfomethyl myristate, 30% -----	40.00
Trace, F.D. & C. Blue Dye No. 1.	
Oil phase:	
Mineral oil, light -----	5.5
Alkanol OA -----	2.5
Bithionol -----	2.0

The above ingredients are combined at 65° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final composition is then adjusted to pH 5.0 with lactic acid. The resulting product is an excellent liquid hand soap or skin cleanser.

Example XIII

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts stated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	46.50
Sodium α -sulfomethyl myristate, 30% -----	45.00
Trace, F.D. & C. Blue Dye No. 1.	
Oil phase:	
Pure-Cellin oil -----	5.0
Alkanol OJ -----	3.0
Diaphene -----	0.5

The above ingredients are combined at 65° C. in the usual manner, i.e., the oil phase is added to the aqueous phase. The final product is an excellent liquid hand soap or skin cleanser.

Example XIV

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts stated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	41.55
Triethanolammonium N-lauroyl sarcosinate, 40% -----	40.00
Polyethylene glycol 1540 monooleate -----	1.00
Cetyl dimethylamine oxide -----	3.00
Glycerin -----	2.00
EDTA, disodium salt -----	0.10
p-Chloro-m-xyleneol, 97% -----	3.10
Hydroxypropyl methylcellulose -----	0.20
Lactic acid, 85% -----	0.20
F.D. & C. Green Dye No. 5, 1% -----	0.10
Oil phase:	
Mineral oil, light -----	3.00
Polyethylene glycol 600 monooleate -----	1.00
Alkanol OA -----	1.50
Alkanol OJ -----	0.25
Hexachlorophene -----	3.00

The above ingredients are combined at 80° C. in the usual manner, i.e., the oil phase is added to the aqueous phase. The final product so obtained is an excellent liquid hand soap or skin cleanser having both antiseptic and detergent properties.

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The final product so obtained is an excellent liquid hand soap or cleanser having both antiseptic and detergent properties.

Example XV

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts stated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	41.55
Triethanolammonium α -sulfomethyl myristate, 40% -----	20.00
Triethanolammonium N-lauroyl sarcosinate, 40% -----	20.00
Polyethylene glycol 1540 monooleate -----	1.00
Cetyl dimethylamine oxide -----	3.00
Glycerin -----	2.00
EDTA, disodium salt -----	0.10
p-Chloro-m-xyleneol, 97% -----	3.10
Hydroxypropyl methylcellulose -----	0.20
Lactic acid, 85% -----	0.20
F.D. & C. Green Dye No. 5, 1% -----	0.10
Oil phase:	
Mineral oil, light -----	3.00
Polyethylene glycol 600 monooleate -----	1.00
Alkanol OA -----	1.50
Alkanol OJ -----	0.25
Hexachlorophene -----	3.00

The above ingredients are combined at 80° C. in the usual manner, i.e., the oil phase is added to the aqueous phase. The final product so obtained is an excellent liquid hand soap or skin cleanser having both antiseptic and detergent properties.

Example XVI

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts stated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	25.30
Sodium N-lauroyl sarcosinate, 30% -----	50.00
Polyethylene glycol 1540 monooleate -----	2.00
Lauric acid diethanolamide -----	2.00
Propylene glycol -----	2.00
EDTA, disodium salt -----	0.10
p-Chloro-m-xyleneol, 97% -----	3.10
Lactic acid, 85% -----	0.20
F.D. & C. Blue Dye No. 1, 1% -----	0.10
Oil phase:	
Pur-Cellin oil -----	5.00
Polyethylene glycol 600 monooleate -----	4.00
Alkanol OA -----	2.50
Alkanol OJ -----	0.50
Hexachlorophene -----	3.00
Florasynth's Oil Bouquet LS No. 7724 -----	0.20

The above ingredients are combined at 50° C. in the usual manner, i.e., the oil phase is added to the aqueous phase. The final product so obtained is an excellent liquid hand soap or skin cleanser having both antiseptic and detergent properties, with a pH in the range of pH 5.5-5.7.

Example XVII

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts indicated below

represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	43.00
Triethanolammonium N-lauroyl sarcosinate, 40% -----	50.00
Trace, F.D. & C. Blue Dye No. 1	
Oil phase:	
Decyl oleate -----	4.00
Alkanol OH -----	1.00
Bithionol -----	2.00

The above ingredients are combined at 65° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final composition is then adjusted to pH 8.5, and the resulting product is found to be useful as a liquid hand soap or skin cleanser.

Example XVIII

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts indicated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	53.40
Triethanolammonium N-lauroyl sarcosinate, 40% -----	30.00
F.D. & C. Green Dye No. 5, 1% -----	0.10
Oil phase:	
Vegetable Oil No. 1400 -----	8.00
Alkanol OA -----	4.50
Hexachlorophene -----	4.00

The above ingredients are combined at 65° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final composition is then adjusted to pH 5.5 with lactic acid, and the resulting product is useful as a liquid hand soap or skin cleanser.

Example XIX

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts stated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	47.30
Triethanolammonium N-lauroyl sarcosinate, 40% -----	45.00
F.D. & C. Green Dye No. 5, 1% -----	0.10
Oil phase:	
Mineral oil, light -----	5.00
Alkanol OJ -----	2.50
Fluorophene -----	0.10

The above ingredients are combined at 80° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final product is useful as a liquid hand soap or skin cleanser.

Example XX

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts indicated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water distilled -----	49.15
Triethanolammonium N-lauroyl sarcosinate, 40% -----	40.00
p-Chloro-m-xyleneol, 97% -----	2.60
F.D. & C. Green Dye No. 5, 1% -----	0.10

Oil phase:	Percent
Mineral oil, light -----	3.00
Alkanol OA -----	1.50
Alkanol OJ -----	0.25
Hexachlorophene -----	3.40

The above ingredients are combined at 80° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final product is found to be useful as a liquid hand soap or skin cleanser, having both antiseptic and detergent properties, with a pH of about 5.5-5.7 after adjustment with lactic acid.

Example XXI

A liquid antiseptic detergent composition is prepared by combining the following materials together in the manner of Example VIII, wherein the amounts indicated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	41.70
Triethanolammonium N-lauroyl sarcosine, 40% -----	50.00
p-Chloro-m-xyleneol, 97% -----	2.50
F.D. & C. Green Dye No. 5, 1% -----	0.10
Oil phase:	
Mineral oil, light -----	2.00
Alkanol OH -----	1.00
Hexachlorophene -----	2.70

The above ingredients are combined at 80° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final composition is then adjusted to pH 6.5 with lactic acid and the resulting product is useful as a liquid hand soap or skin cleanser.

Example XXII

A liquid antiseptic detergent composition is prepared by combining the following materials in the manner of Example VIII, wherein the amounts indicated below represent the parts by weight of each ingredient present in the final composition:

H ₂ O phase:	Percent
Water, distilled -----	54.80
Triethanolammonium N-lauroyl sarcosinate, 40% -----	30.00
p-Chloro-m-xyleneol, 97% -----	3.10
F.D. & C. Green Dye No. 5, 1% -----	0.10
Oil phase:	
Mineral oil, light -----	5.00
Alkanol OA -----	3.20
Alkanol OJ -----	0.80
Hexachlorophene -----	3.00

The above ingredients are combined at 80° C. in the usual manner, i.e., the oil phase is first added to the aqueous phase. The final composition is then adjusted to pH 5.5 with lactic acid, and the resulting product is useful as a liquid hand soap or skin cleanser.

What is claimed is:

1. A liquid antiseptic detergent composition consisting essentially of from about 0.1% to about 6% by weight of at least one disinfectant agent selected from the group consisting of hexachlorophene, fluorophene, p-chloro-m-xyleneol, bithionol, biphenamine hydrochloride, and a synergistic mixture consisting essentially of 20% of 5,4'-dibromosalicylanilide and 80% of 3,5,4'-tribromosalicylanilide; from about 10% to about 20% by weight of a water-soluble, non-irritating and non-sensitizing, surface-active, organic synthetic anionic detergent; from about 2% to about 8% by weight of a super fatting emollient selected from the group consisting of animal, vegetable and mineral oils and synthetic fatty acid ester oils; from about 1% to about 5% by weight of a polyethylene glycol ether of a higher fatty alcohol having from 10 to 22 carbon atoms

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wherein the chain length of said polyethylene glycol ranges from about 1.5 to about 20; and sufficient water to total 100%; the resulting composition always being maintained in the pH range of from about 5.0 to about 8.5 by the addition of from 0 to about 5% of a non-irritating and non-toxic acid.

2. A composition according to claim 1 wherein said disinfectant agent is hexachlorophene and the composition is maintained in the pH range of from about 5.5 to about 6.5.

3. A composition according to claim 1 wherein said disinfectant agent is a mixture of hexachlorophene and parachlorometaxilenol, said detergent is triethanolamine lauroyl sarcosine, said emollient is mineral oil, said ether is an oleyl ether of polyethylene glycol, the pH range is from about 5.5 to about 6.5, and said acid is lactic acid.

4. A liquid antiseptic detergent composition consisting essentially of about 3% by weight of hexachlorophene, about 3% by weight of parachlorometaxilenol, about 16% by weight of triethanolamine lauroyl sarcosine, about 3% by weight of mineral oil, about 3.75% by weight of oleyl ethers of polyethylene glycol, and sufficient water to total 100% by weight; the resulting composition being maintained in the pH range of from about 5.5 to about 6.5 by the addition of from 0 to about 5% by weight of lactic acid.

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