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HAIR BLEACH CONTAINING A THIOCYANATE CATALYST

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ABSTRACT OF THE DISCLOSURE

A bleach for human hair, in aqueous emulsion form, which safely and quickly bleaches the hair, includes, as active bleaching constituents, a mixture of pre-compounds, e.g., sodium persulfate, ammonium persulfate, sodium carbonate peroxide, and hydrogen peroxide, a catalyst for aiding the release of oxygen from such materials, e.g., ammonium thiocyanate, water and an emulsifying material, e.g., ammonium oleate. The bleaching composition is prepared shortly before use by quickly combining at least partially pre-mixed portions thereof and is applied promptly to the hair to be bleached, on which the composition forms a foam of limited height and of a sufficient viscosity to hold in contact with the hair the bleaching constituents and oxygen released.

INTRODUCTION

This invention relates to the bleaching of human hair and to compositions for effecting such bleaching. Products of the invention operate at substantially neutral pH's and steadily release bleaching oxygen, so that bleaching is obtained without harm to the hair. The invention also relates to methods of making bleaching compositions and of effecting bleaching of hair with them.

BACKGROUND OF THE INVENTION

For many years the most effective and popular of bleaches for the human hair has been hydrogen peroxide, usually employed in an aqueous solution. Oxygen is readily released from such solutions at high pH's. Generally, commercial aqueous hydrogen peroxides are of 3 to 6% oxygen content, which is ordinarily high enough to result in effective bleaching of the hair. Such bleaching is undertaken before the application of dyes, such as those employed to give the hair desired light colors or shades. In some instances, hydrogen peroxide has been incorporated into shampoos or emulsions for the hair, which may contain higher fatty acid soaps, such as the salts of oleic acid. Various per-compounds have been employed to generate oxygen for bleaching and it is known that the release of oxygen from such compounds can be accelerated with catalysts for this purpose. However, although various components of the present composition are known in the bleach art, applicant does not know of any of the invented combinations of required components of the present invention that have previously been made and would result in compositions having the properties of those of this invention.

DESCRIPTION OF THE INVENTION

The products and processes of this invention enable one to obtain a fast, steady bleaching, utilizing a thickened composition of limiting foaming power, at a substantially neutral pH. Thus, little harm is done to the hair by the bleaching operation and it is of greater strength and luster after bleaching than it would be after the use of harsher bleaches of higher alkalinities. Because the hair is not deteriorated by application of the present bleaches, it has been found that various dyes applied to it, such as the paraphenylene dyes, are more substantive and are less easily removed by water and

shampooing than is the case when the dyes are applied after regular hydrogen peroxide bleaching.

In accordance with the present invention a bleach for human hair comprises a per-compound capable of releasing oxygen from aqueous solution upon being contacted with a catalyst, hydrogen peroxide, water and a thiocyanate catalyst, which catalyzes the release of oxygen from the per-compound at a pH in the range of 6.5 to 8.5. In preferred bleaches there are present certain proportions of sodium carbonate peroxide, sodium persulfate, ammonium persulfate, hydrogen peroxide, water and ammonium thiocyanate. Examples of some important additives to the basic formula include amonium oleate, t-octyl phenoxy polyethoxy ethanol, oleyl alcohol, propylene glycol, methanol and sodium sulfite.

The described compositions are made by mixing separately, shortly before intended use, (A) the per-compounds and an aqueous solution of hydrogen peroxide, (B) the thiocyanate, nonionic detergent, oleic acid, ammonium hydroxide, oleyl alcohol, propylene glycol and methanol, and (C) admixing the two mixtures described. In use, a creamy aqueous emulsion comprising the various described constituents is applied to the hair promptly after being made and is held on it for a period from 15 to 45 minutes at a substantially neutral pH, after which it is rinsed off with water, leaving excellently bleached the hair to which it has been applied. Of course, although it is preferred to make the bleach by such a mixing of components, other orders of addition and other pre-mixes may be employed so long as the final bleach contains the desired ingredients. Additionally, it is preferred that the bleach be used soon after combination of the materials thereof, usually within five minutes of completion of the emulsion and preferably, within 30 seconds or a minute or two.

The per-compounds or per-salts used include primarily sodium carbonate peroxide ($2Na_2CO_3 \cdot 3H_2O_2$) or other suitable alkali metal or other carbonate peroxide, e.g., potassium carbonate peroxide. In place of the carbonate peroxide one may employ percarbonates, e.g., sodium percarbonate. The persulfates include principally sodium persulfate, although other alkali metal persulfates and other persulfates may be employed, and ammonium persulfate is generally present to supplement the action of the sodium persulfate. The persulfates or equivalents or derivatives thereof are usually packed together as a mixed powder, with a small quantity of sodium sulfite, as a desiccant-stabilizer, and are protected from moisture and air by a sealed aluminum barrier, as in a heat sealed pouch, preferably sealed under vacuum. The alkali metal carbonate peroxide or percarbonate is packed separately in similar manner, also with the sodium sulfite to protect it.

The hydrogen peroxide employed, while it may be of any suitable concentration in water, will usually be in the 1.5 to 18% range, preferably from 2 to 10%, and most preferably, will be either 3 or 6% in water, corresponding to 10 or 20 volumes of oxygen obtainable. In most of the presently described compositions 6% peroxide is employed. The H_2O_2 is usually stabilized against premature release of oxygen, with a small amount of a stabilizing chemical, e.g., phenacetin.

Except for the thiocyanate catalyst, the rest of the bleach is usually a liquid solution (preferable) or an emulsion. It comprises a suitable soap, usually unsaturated and of 12 to 18 carbon atoms. Such soap, which may be an alkali metal soap, is preferably ammonium, amine or alkanolamine oleate and of these the ammonium oleate is considered to be the best. The soap is made by the reaction of oleic acid or corresponding higher fatty acid and a suitable base. Thus, to make ammonium oleate, there will be employed ammonia, generally as a

28% solution in water, and oleic acid. These may be heated to promote reaction but usually will sufficiently react in solution, whether that solution be aqueous or alcoholic. pH adjustments may be assisted by utilizing an excess of either the ammonia or oleic acid. Although ammonia gas may be employed in the production of the ammonium oleate or ammonium oleate might be utilized directly, it is preferred to react an aqueous solution of ammonium hydroxide with the oleic acid. Then too, while 28% ammonia is the standard ammonium hydroxide solution used, various other percentages, usually from 5 to 28% can be successfully employed. Oleyl alcohol or other higher fatty alcohol, preferably unsaturated and of 16 to 18 carbon atoms, may be present with the oleic acid when it is neutralized by the ammonium hydroxide, or may be added afterward. Usually it is preferred to have the oleic acid dissolved in a lower alcohol, such as methanol or isopropanol, and lower alkylene glycol such as propylene glycol, butylene glycol, or low molecular weight (of molecular weight less than about 300) polyethylene or polypropylene glycol may be present with the alcohols. In addition to the higher fatty acid soap, it is usually preferable to have present a nonionic detergent which contains, as a hydrophilic group, a poly-lower alkoxy lower alkanol, such as polyethoxy ethanol, attached to a hydrophobic group which is preferably hydrocarbyloxy, such as higher alkyloxy or middle alkylphenoxy. By higher alkyl is meant an alkyl of 12 to 18 carbon atoms and by middle alkyl is described one of 7 to 9 carbon atoms. The preferred nonionic detergent is of the Triton X–100 type, which is t-octylphenoxy polyethoxy ethanol wherein the polyethoxy ethanol portion is of 8 to 9 (ethoxy+ethanol) groups. Suitable variations of such compounds are those wherein the polyethoxy ethanol portion or poly-lower alkoxy lower alkanol portion is about 60 to 70% by weight of the nonionic detergent. Other useful nonionics include the Neodols, Pluronics, Ucons and other polylower alkoxy alkanol detergents.

The catalyst which is used for promoting and controlling release of oxygen or hydrogen peroxide from the per-compounds is a thiocyanate. Although alkali metal and other thiocyanates and complexes containing such materials may be utilized, at least to a partial extent, the most preferred thiocyanate is ammonium thiocyanate. This will be packed separately from the rest of the bleach constituents. Preferably, it and the separate per-compound mixtures will be packed in desired use quantities. The hydrogen peroxide and the soap-detergent or diluent compositions may also be packed in sufficient quantities for a single use or may be measured out from containers which hold enough for several bleaching operations. In preferred bleaching kits the user will supply his own hydrogen peroxide solution.

The water employed, if any is used, will preferably be deionized water, although distilled water and tap water of less than 100 parts per million equivalent hardness, as calcium carbonate, may be very successfully used and harder waters, although not preferred, result in operative compositions. Often, the water will accompany other ingredients.

Of course, various adjuvants may be present in the compositions to give them specially desirable properties. For example, perfumes, coloring agents, including dyes and dispersible pigments, emollients, bactericides, fungicides, stabilizers, pH regulating agents, e.g., buffers, solvents, salts, carriers, e.g., powders, and other adjuvants may be employed but the totals thereof will normally not exceed about 20% of the composition and preferably will be held to about 10% thereof, with individual adjuvants rarely exceeding 5% of the composition (except for the carriers, which can be present in greater proportions) and preferably being less than 2% thereof.

The proportions of the various compounds present should be within certain ranges for best results. Thus, it is highly preferred to utilize about 5 to 15 parts of the nonionic detergent, about 20 to 45 parts of soap, about 5 to 10 parts of higher fatty alcohol, about 1 to 5 parts of lower alkylene glycol, about 5 to 15 parts of lower alkanol, about 10 to 25 parts alkali metal carbonate peroxide, about 15 to 35 parts of alkali metal persulfate, about 4 to 10 parts of ammonium persulfate, about 4 to 11 parts of hydrogen peroxide, about 100 to 150 parts of water and about 0.4 to 1.1 parts of thiocyanate catalyst.

Although the mixing together of the final bleaching composition will take place only shortly before intended use, the pre-mixes made or variations of them may, for convenience, be produced long before the mixing of the hydrogen peroxide, the other per-compounds, the catalyst and the "diluent" materials. Both the final and earlier mixings may take place at temperatures within the range of 15° C. to 60° C. but it will be much preferred to use temperatures within the range of 20° C. to 40° C. and in most instances room temperature, about 20° C. to 30° C., will be employed. Reactions between the chemicals will usually raise the temperature.

To use the bleaches after final mixing of the components or pre-mixed portions thereof, is a simple matter. Because the formulations will have been compounded so that the various constituents are properly balanced for good bleaching effects, only the ordinary bleach application methods normally followed need be used. Thus, the hair will preferably be clean before bleaching, with most of the oil and dirt having previously been removed from it by shampooing. With the hair still wet or damp, the bleach composition may be applied. Usually, from 20 to 400 ml. of the emulsion and preferably from 50 to 300 ml. thereof will be sufficient to bleach the average head of hair but other quantities may also be used, depending largely on the length of the hair and the extent of bleaching desired. Thus, when it is wanted that only the roots be bleached, less bleaching composition may be employed than when the entire head of hair is to be treated. If desired, the bleaching composition may be diluted with water before use but this is not necessary. Also, the hair may be bleached successfully without previous washing and can be dry before bleaching. "Frosted" bleaching effects are also obtainable.

When applied to the entire head of hair, the desired amount of bleaching composition, e.g., 200 to 300 cc., either diluted or not, is poured onto the hair and distributed throughout it. To obtain the most even bleaching this is done quickly, usually within a minute or two. When only the roots are being bleached, the hair is parted in the usual way, bleach is applied to the exposed hair, and the partings and applications are continued, usually at ½ to 1 inch intervals, until all the root areas have had bleach applied to them. This might take from 1 to five minutes but the faster applications are preferred, providing that they are even. The bleach emulsion is thick and covers the scalp to a depth of about 3 mm. when first applied, expanding to from 10 to 25 mm. as oxygen is generated. The temperature of the hair and bleach solution, when applied, will usually be about room temperature, 20 to 40° C. but other suitable temperatures for particular conditions may be used. The pH of the bleach solution or emulsion applied will usually be from about 6.5 to 8.5, preferably from 6.8 to 7.5. At such pH's good bleaching is effected gradually and hair damage during bleaching is minimized. The entire bleaching operation usually takes from 15 to 45 minutes but preferably will take from 20 to 35 minutes and most preferably, from 20 to 30 minutes. The bleach will be used or use will be begun immediately after the composition has been prepared, generally within 30 seconds to a minute after such preparation. To avoid waste of bleaching power due to loss of oxygen, the bleach will be compounded rapidly too, usually within the mentioned time periods.

It is a feature of this invention that the bleaching composition applied is of desired thickness and foaming char-

acteristics so that it does not drip off the hair and does not foam into areas of the hair which it may be desired to leave unbleached, as when only root sections of the hair are being treated. Thus, despite the generation of a gas, oxygen, from the bleaching composition, the height of the foam developed is controllable and may be limited to ½ or 1 inch in height, so that bleaching will not extend beyond such distances from the roots, or will not extend into areas of the hair where bleaching is not to be effected.

After the desired degree of bleaching has been obtained further bleaching can be halted by quick rinsing off of the bleaching materials and drying of the hair. Dyeing may then be undertaken or, if desired, may sometimes be done on the wet or damp hair, without preliminary drying. After the present bleaching treatments, the hair is bleached white but is still lustrous and strong. Examination under a microscope shows it to be less porous, with fewer split hairs and other signs of structural damage than hair bleached with ordinary high alkalinity bleaches. It takes dyeing and the dyes applied, particularly the paraphenylene dyes, are substantively held to the hair and are not readily washed off it.

The various components of the present products each perform important functions, resulting in the superior products and treatments described. Of course, the hydrogen peroxide releases bleaching oxygen, as do the sodium carbonate peroxide and the persulfates. Releases of oxygen are steady, due to the balance of per-compounds and hydrogen peroxide, coupled with the catalytic action of the thiocyanate. The sodium persulfate, ammonium persulfate and sodium carbonate peroxide release their oxygen contents at separate times and the hydrogen peroxide releases rather steadily, with the result being a steady release of bleaching power. The combination of oleic acid or ammonium oleate and oleyl alcohol with water produces the desired emulsion, which is sufficiently thick or viscous so as not to run off the hair after application. The ammonia neutralizes the oleic acid and adjusts the product pH. It may also help to catalyze release of oxygen from the hydrogen peroxide. The balance of ammonia and oleic acid may be adjusted to provide for the presence in the bleaching composition of an excess of either the base or the acid but generally approximately stoichiometric quantities will be used to make a neutral salt. The water and methanol present act as solvents and media for the emulsion or solution made. The sodium carbonate peroxide and persulfates, in addition to providing oxygen for bleaching, also help to regulate the temperature of the bleach on the hair. In this respect, the ammonium persulfate tends to hold the temperature down, under 50° C., and preferably, under 40° C., most preferably at about body temperature, e.g., 37 or 38° C. The ammonium thiocyanate catalyst, in addition to slowly releasing oxygen from the peroxide and persulfates during bleaching, also helps to remove iron colorants from the hair, on which they may be present, either physically held to the hair shafts or associated with the melanin pigment thereof. The propylene glycol acts as a dispersing agent in the compositions and helps to keep the foam from overdeveloping on the hair. The methanol and Triton X–100 also act to thin the emulsion, limit excessive foaming and contribute surface tension lowering properties to promote better contact with the hair and promote more efficient bleaching use of the oxygen developed. The methanol thins the oleate soap so as to make it readily pourable and yet, after at least partial evaporation, allows it to be thickened on the hair, trapping oxygen as bubbles in the continuous phase.

As is seen from the above description, each of the components of the invention contributes its function to the success of the invented bleaching composition. In combination, they make a product which, as packaged, is stable to storage, with shelf storage for over a year being possible with commercially useful formulas, and which releases bleaching active ingredient at a satisfactory, regular rate and at an acceptable pH and temperature. The bleaching takes place over a reasonable time period and at the end of that period the active oxygen component of the bleach is consumed. The product is of correct viscosity to remain on the hair without dripping and it does not foam excessively, despite the foam-generating action which would be expected due to oxygen development. Yet, the generated oxygen is held in contact with the hair for a sufficiently long time to bleach it effectively. Additionally, iron removal or sequestration is effected by one of the components used primarily for a different, catalytic effect, and the iron so taken from the hair helps to regulate or speed the release of bleaching oxygen from the peroxide. All this is done by the described product without injuring the hair, unlike prior art high alkalinity bleaching methods.

The following examples illustrate the invention. Of course, they do not limit it. Unless otherwise indicated, all parts given in the formulas are by weight and all temperatures are in degrees Centigrade.

EXAMPLE 1

	Parts by weight
C_{7-9} alkyl phenoxy polyethoxy ethanol (60–70% polyethoxy ethanol)	5 to 15
Ammonium oleate	20 to 45
Oleyl alcohol	5 to 10
Propylene glycol	1 to 5
Methanol	5 to 15
Sodium carbonate peroxide	10 to 25
Sodium persulfate	15 to 35
Ammonium persulfate	4 to 10
Hydrogen peroxide	4 to 11
Water	100 to 150
Ammonium thiocyanate	0.4 to 1.1
Sodium sulfite	0.01 to 0.2

With the various mixing operations being effected at room temperature, about 25° C., a hair retouch bleaching kit is made, comprising four parts, as follows:

Part A:	Parts by weight
C_{7-9} alkyl phenoxy polyethoxy ethanol (60–70% polyethoxy ethanol)	5 to 15
Methanol	5 to 15
Propylene glycol	1 to 15
Oleyl alcohol	5 to 10
Ammonium hydroxide (28% aqueous solution)	8 to 18
Oleic acid	18 to 40
Part B:	
Sodium persulfate	15 to 35
Ammonium persulfate	4 to 10
Sodium sulfite	0.005 to 0.1
Part C:	
Sodium carbonate peroxide	10 to 25
Sodium sulfite	0.005 to 0.1
Part D:	
Ammonium thiocyanate	0.4 to 1.1

Part E, which may also be part of the kit but is normally supplied by the user, himself, is as follows:

Part E:	Parts by weight
Hydrogen peroxide (6% aqueous solution, stabilized with phenacetin)	70 to 140

The components of Part A are sequentially combined at room temperature but then, to facilitate reaction of the ammonium hydroxide and the oleic acid, or other higher fatty acid that may be used in partial replacement of the oleic acid, the temperature may be raised to as high as 40° C. When the materials are reacted and dissolved, the clear, golden, liquid solution is cooled to room temperature and 0.2 to 2 parts of perfume are added, together with any other desired additives, e.g., dyes, thickeners, germicides. It is then bottled. The Part B materials, all

powders, are mixed together and vacuum packed in foil envelopes, preferably weighed out in end use quantities that are recommended, and the same is done for Part C. The catalyst is treated similarly (Part D). The peroxide solution (Part E) is a standard article of commerce, which may be re-bottled. The entire kit with or without the hydrogen peroxide, as desired, is boxed, ready for use.

In use, the desired proportions of the components are sequentially mixed. First, Parts B, C and E are mixed together, with vigorous shaking for about 30 seconds. Then, the catalyst, Part D, is added to Part A and dissolved therein. Finally, the two pre-mixes are blended, by shaking for about 15 seconds, forming a creamy colloidal bleach which is ready for use immediately.

The bleach emulsion is applied to the hair roots about ⅛ inch deep so as to bleach the hair from the scalp to about 1 inch from it. The usual method for doing this is followed, parting the hair, applying bleach, combing the hair over, parting about an inch from the previous part, and repeating the operations until bleach has been applied to all hair roots. As the components of the bleach react, while on the hair, the temperature thereof increases to about 38° C., oxygen is gradually released and the hair is satisfactorily bleached. Any iron present on the hair or with the melanin pigment thereof, aids in releasing the oxygen and is also removed from the hair by the bleach. The pH of the hair is maintained in the range of 6.8 to 7.5 during the bleaching, due to the balanced pH of the bleaching composition. Thus, when bleaching is completed, after 20 to 30 minutes, when the oxidizing capacity of the bleach is no longer significant, the hair bleached, although colorless and ready for acceptance of dyes, is not damaged, as would be the case when employing more alkaline bleaches. The desired pH range of bleaching can be modified by adjustment of the pH of the bleach composition, preferably by increasing or decreasing the proportions of ammonium hydroxide and/or oleic acid in Part A. Also, if desired, other buffers may be incorporated in the bleaches, e.g., citrates, silicates.

Of course, at the termination of the bleaching operation, which can be stopped at any convenient point before exhaustion of the bleaching capacity of the composition, the hair is completely rinsed with water and dried. A conditioning treatment may be effected at that time or the hair may be dyed to a desired shade. Dyeing may be effected after the hair is dried or while it is still damp from rinsing. The dyes applied, especially the paraphenylene dyes, take very well to the bleached hair and the dyed hair is soft and lustrous, not rough, split, broken or otherwise damaged.

Although good products are made throughout the ranges given, usually one of skill in the art will know how to adjust the formula within the ranges for best results and will do so in accordance with the present teachings.

When the formulation is varied, as taught in the specification, equivalent results are obtained. Thus, when a higher alkoxy polyethoxy ethanol, such as Neodol 45–11 (Shell Chemical Company), other Neodols and other Tritons or Igepals of this type are employed, good wetting and cleaning action is also obtained without interfering with the bleaching effects. When some of the oleic acid is replaced by lauric acid, up to 30% of the acid content, the product is effective. The methanol may be replaced partially or completely by isopropanol or ethanol, in that order of preference. Results are not as good with ethanol and it will usually be omitted. When the propylene glycol is replaced by a low molecular weight polyethylene glycol, of molecular weight of about 250 or when a small amount of silicone or other commercial foam killer is used, foam volume is diminished. In a similar manner, the concentrations of peroxide employed are changed, to 3% or 12%, with the quantity of water in the product being altered concomitantly. Triethanolamine may be substituted for some of the ammonium thiocyanate. It has a catalyzing effect on the per-compounds, causing desired release of oxygen, but is not as good as the thiocyante. Of course, other thiocyanates, e.g., sodium and potassium thiocyanates, and other per-compounds, e.g., corresponding alkali metal salts, can be used and the products made will be of good bleaching activities. However, the ranges described in this example and the compounds disclosed are considered to be for the best proportions and materials to produce the most desired products.

EXAMPLE 2

	Quantity employed (single bleach application)
t-Octyl phenoxy polyethoxy ethanol (Triton X–100)	cc.. 10
Oleic acid	cc.. 30
Oleyl alcohol	cc.. 8
Propylene glycol	cc.. 3
Methanol	cc.. 10
Ammonium hydroxide (28% aqueous solution)	cc.. 13
Sodium persulfate	g.. 25
Ammonium persulfate	g.. 7
Sodium carbonate peroxide	g.. 18
Sodium sulfite	g.. 0.1
Ammonium thiocyanate	g.. 0.7
Hydrogen peroxide (6% aqueous solution)	cc.. 120

The above components are admixed in the manner described in Example 1. Before use, the products include 10 parts nonionic detergent, 29 parts ammonium oleate, 7 parts oleyl alcohol, 3 parts propylene glycol, 8 parts methanol, 25 parts sodium persulfate, 7 parts ammonium persulfate, 18 parts sodium carbonate peroxide, 0.1 part sodium sulfite, 0.7 part ammonium thiocyanate, 123 parts water and 7.2 parts hydrogen peroxide. The bleach emulsion is tested for bleaching activity on a plurality of human subjects of different hair shades, ranging from dark blonde to brunette. The bleach is employed in the final composition for both whole head bleaching and root bleaching of previously bleached hair. Quantities used range from 100 to 300 cc. (cubic centimeters), being usually about 230 cc. Bleaching is at a self-developed elevated temperature of 38° C., although bleaching can also be effected at temperatures of 30 to 40° C. with this preparation. Bleaching times at the desired temperatures are from 20 to 30 minutes and with the particular described formula it is 25 minutes. The bleached hair is strong, unsplit, smooth and shiny, not coarse and damaged as is the case when a highly alkaline bleach is used to release the oxygen from the peroxides and per-salts. (The present bleach pH is adjusted to maintain about pH 7.2 on the hair.)

EXAMPLE 3

When the formula and procedures of Example 2 are followed, except that a stoichiometric equivalent of half the ammonia is replaced by sodium metasilicate, to supply needed alkalinity, and half the ammonium thiocyanate is replaced by 2.5 g. of triethanolamine, to act as a catalyst and provide alkalinity, very good bleaching is effected. Similarly, when complete replacements of the ammonia and catalyst are made by such materials, bleaching is obtained but it is considered to be inferior to that of the present compositions. If desired, the ammonium thiocyanate or other suitable thiocyanate is used with only hydrogen peroxide or other per-compound mentioned herein or other suitable per-compound and it produces a regulated release of oxygen and promotes even bleaching of the human hair, without detrimental effects associated with highly alkaline bleaching. Yet, depite this utility, for the best commercially acceptable compositions, the presently described preferred formulations should be employed.

The invention has been described with respect to illustrations and working examples thereof but is not to be considered as being so limited because it is clear that subsitutes and equivalents may be employed within the spirit and scope of the described invention.

I claim:

1. A method of bleaching hair which comprises applying thereto an effective bleaching amount of a bleaching composition comprising about 29 to 70 parts by weight of a per-compound selected from the group consisting of an alkali metal carbonate peroxide, an alkali metal percarbonate, an alkali metal persulfate, ammonium persulfate and mixtures thereof, about 4 to 11 parts by weight of hydrogen peroxide, about 100 to 150 parts by weight of water and about 0.4 to 1.1 parts by weight of a thiocyanate catalyst selected from the group consisting of an alkali metal thiocyanate and ammonium thiocyanate having a pH in the range of 6.5 to 8.5.

2. A method according to claim 1 wherein the bleaching composition also contains from about 20 to 45 parts by weight of an oleate soap and about 5 to 15 parts by weight of a synthetic organic nonionic detergent.

3. A method according to claim 2 wherein the oleate soap is ammonium oleate, the synthetic organic nonionic detergent is a middle alkyl phenoxy polyethoxy ethanol wherein the polyethoxy ethanol portion is about 60 to 70%, the per-compound is a mixture of an alkali metal carbonate peroxide, an alkali metal persulfate and ammonium persulfate, the thiocyanate catalyst is ammonium thiocyanate and the bleaching composition also contains from about 5 to 15 parts by weight of a lower alkanol selected from the group consisting of methanol, isopropanol and mixtures thereof.

4. A bleaching composition for human hair comprising about 29 to 70 parts by weight of a per-compound selected from the group consisting of an alkali metal carbonate peroxide, an alkali metal percarbonate, an alkali metal persulfate, ammonium persulfate and mixtures thereof, about 4 to 11 parts by weight of hydrogen peroxide, about 100 to 150 parts by weight of water and about 0.4 to 1.1 parts by weight of a thiocyanate catalyst selected from the group consisting of an alkali metal thiocyanate and ammonium thiocyanate having a pH in the range of 6.5 to 8.5.

5. A bleaching composition according to claim 4 comprising about 10 to 25 parts by weight of an alkali metal carbonate peroxide, about 15 to 35 parts by weight of an alkali metal persulfate, about 4 to 10 parts by weight of ammonium persulfate, about 0.4 to 1.1 parts by weight of ammonium thiocyanate, about 4 to 11 parts by weight of hydrogen peroxide and about 100 to 150 parts by weight of water and the composition also contains about 20 to 45 parts by weight of ammonium oleate, about 5 to 15 parts by weight of a middle alkyl phenoxy polyethoxy ethanol nonionic detergent, of which about 60 to 70% is polyethoxy ethanol, about 5 to 10 parts by weight of oleyl alcohol and about 5 to 15 parts by weight of a lower alkanol selected from the group consisting of methanol, isopropanol and mixtures thereof.

6. A bleaching composition according to claim 5, in the form of an aqueous emulsion having a pH in the range of about 6.8 to 7.5, comprising 20 to 45 parts by weight of ammonium oleate, 5 to 15 parts by weight of t-octyl phenoxy polyethoxy ethanol, 5 to 10 parts by weight of oleyl alcohol, 5 to 15 parts by weight of methanol, 10 to 25 parts by weight of sodium carbonate peroxide, 15 to 35 parts by weight of sodium persulfate, 4 to 10 parts by weight of ammonium persulfate, 100 to 150 parts by weight of water, 4 to 11 parts by weight of hydrogen peroxide, 0.4 to 1.1 parts by weight of ammonium thiocyanate and, as an additional constituent, 1 to 5 parts by weight of propylene glycol.

7. A bleaching composition according to claim 6 which comprises about the following amounts of components:

	Parts by weight
t-Octyl phenoxy polyethoxy ethanol	10
Ammonium oleate	29
Oleyl alcohol	7
Propylene glycol	3
Methanol	8
Sodium carbonate peroxide	18
Sodium persulfate	25
Ammonium persulfate	7
Hydrogen peroxide	7.2
Water	123
Ammonium thiocyanate	0.7

and, as an additional constituent, 0.1 part by weight of sodium sulfite.

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