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COLORED DOUBLE-KNIT FABRIC MATERIAL OF CELLULOSE ORGANIC ACID ESTER HAVING LESS THAN 0.29 FREE HYDROXYL GROUPS PER ANHYDROGLUCOSE UNIT

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ABSTRACT OF THE DISCLOSURE

A colored double-knit fabric material free of distortion in the courses and wales of the double-pique stitch and having substantial retention of stitch definition, the fibers of which are substantially free of brittleness and comprise a cellulose organic ester of low hydroxyl content produced by contacting the uncolored fabric material with an excess of a liquid containing a dyestuff carried in a mixture of water, organic solvent and a thiocyanate selected from the group consisting of alkali-metal and ammonium thiocyanates; and removing the excess liquid, scouring and finishing to obtain the colored double-knit material.

This invention relates broadly to the art of dyeing. More particularly it is concerned with an improved method of dyeing or coloring a double-knit fabric material, the fibers or filaments of which comprise a cellulose organic acid ester.

The filamentary cellulose esters of low hydroxyl content in the double-knit fabric materials that are colored by the method of this invention contain not more than 0.29, preferably from zero to 0.12, hydroxyl (alcoholic hydroxyl) groups per anhydroglucose unit in the cellulose molecules thereof. Best results are obtained by the use of cellulose acetate of very high acetyl value, for instance an acetyl value of at least 59%, advantageously above about 60%, and preferably from 61 to 62.5%, calculated as combined acetic acid. Such esters of low hydroxyl content are hereafter referred to as triesters. Cellulose triacetate is the preferred triester. However, other lower aliphatic esters of cellulose of the aforesaid low hydroxyl content may be employed. Examples of of such esters are cellulose formate, cellulose propionate, cellulose butyrate, cellulose acetate-propionate and celluose acetate-butyrate.

Aqueous dyeing of double-knit, cellulose triester-containing fabrics usually results in distortion of the double-pique stitch. It also results in loss of stitch definition due to mechanical agitation caused by raising of surface fibers. This stitch distortion or loss of stitch definition adversely affects the aesthetic characteristics of the fabric. Consequently, it is unsatisfactory to the trade.

An effort has been made to produce commercially satisfactory, double-knit, cellulose triester-containing fabrics in various colors by coloring the yarn, e.g., by package dyeing. The colored yarn was then double knit, and the resulting fabric was steam-calendared (substantially non-wet finished). This technique is more expensive than piece-dyeing the double-knit triester fabric. Furthermore, the technique is objectionable in that package dyeing of the triester yarn seems to cause fiber brittleness.

The market for double-knit fabrics is growing rapidly. However, only a relatively small amount of synthetic yarn heretofore has been used annually for this purpose. The above-described dyeing problem has almost completely precluded cellulose triester yarns from use in double-knit fabrics. The problem has been a serious one both from economic and consumer viewpoints because of the inherent advantages, over cotton and woolen double-knit fabrics, of cellulose triester double-knit fabrics from the standpoint of comfort, wrinkle-resistance, ease-of-care properties, as well as in other useful characteristics desired by the consumer.

The present invention is based on our discovery of a method that provides a solution to the above-described problem of producing a colored, double-knit, cellulose triester-containing fabric.

It is a primary object of the present invention to provide a method of coloring a double-knit fabric material, the fibers of which comprise a cellulose organic acid ester having less than 0.29 hydroxyl groups per anhydroglucose unit, whereby after scouring and finishing there is obtained a colored double-knit fabric material comprised of the aforementioned fibers that shows no substantial loss of stitch definition.

Another object of the invention is to provide a method of preventing objectionable stitch distortion in coloring double-knit fabric material that is comprised of fibers such as described in the preceding paragraph and, more particularly, of cellulose acetate having an acetyl value of at least 59% calculated as combined acetic acid.

Still another object of the invention is to provide a method that fulfills the objects described above and, additionally, yields a colored, double-knit, cellulose triester-containing fabric wherein substantially no brittleness of the fiber has occurred during the coloring or dyeing operation.

A further object of the invention is to provide a method of coloring a double-knit, cellulose triester-containing fabric material having commercially satisfactory aesthetic characteristics.

Still another object of the invention is to provide a method of coloring a double-knit, cellulose triester-containing fabric material that is commercially satisfactory from the standpoint of color fastness, hand, comfort, wrinkle-resistance, ease-of-care properties, as well as in other useful characteristics desired by the consumer.

Other objects of the invention will be apparent to those skilled in the art as the description of the invention proceeds.

In accordance with the present invention a double-knit (i.e., circular-knit) fabric material, which is constituted of fibers comprising an organic acid ester having less than 0.29 free hydroxyl groups per anhydroglucose unit, is contacted with an excess of a liquid containing a dyestuff carried (e.g., as a true solution, a colloidal solution, a dispersion, or in any other form in which dyestuffs are present in dyebaths) in a mixture of water, an organic solvent, and a thiocyanate selected from the group consisting of the alkali-metal (sodium, potassium, lithium, etc.) and ammonium thiocyanates. For instance, the dyestuff may be dissolved in a solution comprising the aforementioned ingredients. Thereafter, the excess liquid is removed, e.g., by squeezing (as by passage between ad-

jacent moving surfaces or in any other suitable manner), or centrifugation, whereby after scouring and finishing there is obtained a colored double-knit fabric material comprised of the aforementioned fibers that shows no substantial loss of stitch definition.

The process of this invention makes it possible to dye double-knit fabric materials comprised of cellulose organic acid esters of low free hydroxyl content in full shades having excellent fastness to washing, fastness to light, fastness to atmospheric fading agents such as ozone and nitrous oxide, and excellent resistance to crocking. In fact, double-knit fabrics dyed in accordance with the present invention are so washfast that they pass the exceptionally severe #3 A.A.T.C.C. washfastness test, even when the fabrics have not received a subsequent heat-treatment.

The dyebaths that may be used in practicing the present invention comprise a mixture containing an organic solvent and having such solvent power that when a fabric material comprised of fibers of the usual secondary cellulose acetate of lower acetyl content, having an acetyl value of 54–55% calculated as combined acetic acid, is immersed in said dyebath, said secondary cellulosse acetate fibers are coalesced and the fabric material thereof loses its fibrous character, the solvent power of said mixture being, however, insufficient to cause any coalescence of, or any other substantial damage to, the aforementioned cellulose ester of high acyl content, specifically cellulose acetate fibers of high acetyl content.

In a preferred form of the invention the dyebath contains the dyestuff dissolved in a mixture, specifically a solution or a dispersion, of water, an organic solvent, and a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates.

In accordance with one particularly advantageous aspect of this invention the dyebath contains a dyestuff dissolved, dispersed or otherwise distributed in a mixture of from, by weight, 5 to 25 parts acetic acid, 5 to 55 parts water and 25 to 70 parts of a monohydric aliphatic alcohol represented by the general formula R—OH wherein R represents an aliphatic radical and, specifically, an alkyl radical, together with a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates. In such a dyebath the proportion of the aforesaid thiocyanate in the dyebath is within the range of, by weight, from 5 to 12 parts and is such that when a textile material consisting of fibers of the usual secondary cellulose acetate of an acetyl value of from 54–55%, calculated as combined acetic acid, is immersed in the said dyebath the said secondary cellulose acetate fibers are coalesced and the fabric material comprising the same loses its fibrous character.

In accordance with another specific aspect of this invention, the dyebath contains a dyestuff dissolved, dispersed or otherwise distributed in a mixture of from 5 to 35 parts of water and from 65 to 95 parts of a monohydric aliphatic alcohol represented by the general formula R—OH wherein R represents an aliphatic radical and, specifically, an alkyl radical, together with a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates. The proportion of the said thiocyanate in the said dyebath is in the range of, by weight, from 8 to 14 parts and is such that when a fabric material consisting of fibers of the usual secondary cellulose acetate of acetyl value of 54–55%, calculated as combined acetic acid, is immersed in the said dyebath, the said secondary cellulose acetate fibers are coalesced and the fabric material comprising the aforesaid fibrous material loses its fibrous character.

In a further specific aspect of the instant invention, the dyebath liquor is a single-phase solvent comprising at least 30% by weight of an organic liquid swelling agent for highly acetylated cellulose, at least 10% by weight of the solvent comprising a primary swelling agent such as a polyhydric alcohol ether, a polyhydric alcohol ester, diacetone alcohol or an alkyl phosphate. These latter substances can be present to make up the full minimum of 30% swelling agent or the balance can be made up of secondary swelling agents such as carboxylic acids, e.g., formic, acetic or propionic acids, glycols, e.g., ethylene glycol, alcohols of the general formula represented by R—OH, wherein R represents a hydrocarbon radical and, specifically such alcohols as, for example, the various alkanols, for instance, methyl, propyl, butyl and isobutyl alcohols and, particularly, ethyl alcohol, and the like. To the single-phase solvent there is added an alkali-metal or amonium thiocyanate in an amount ranging from about 4 to 12% by weight of the solvent, preferably from about 5 to about 11% by weight thereof.

To complete the dyebath there is dissolved in the solvent a dyestuff for the cellulose ester. The dyestuff is generally employed in an amount up to about 5% by weight of the solvent, and preferably in an amount ranging from about 0.2% to about 3% by weight thereof. Representative primary swelling agents that can be used include beta-phenoxyethanol, beta-n-butoxyethanol, beta-methoxyethanol, n-butoxyethoxyethanol, ethylene glycol monoacetate, glycerine diacetate, glycerine triacetate, diacetone alcohol, triethyl phosphate, tripropyl phosphate, and the like. In some instances, such as when using beta-phenoxyethanol, the primary swelling agent will not be sufficiently soluble in the water so that, in order to establish a single-solvent phase, there can be added another primary swelling agent such as diacetone alcohol or a secondary swelling agent such as acetic acid which is miscible with both the water and beta-phenoxyethanol. The use of a solvent comprising at least 20% by weight of acetic acid prevents phase separation and yields especially good dyeings, even with relatively water-insoluble swelling agents.

A wide variety of dyestuffs may be employed in practicing the present invention, including acid dyestuffs, premetallized dyestuffs, direct cotton dyestuffs and leuco vat ester dyestuffs, none of which has any appreciable affinity for cellulose triesters, specifically cellulose triacetate, when applied from dispersions in water containing dispersing agents. Disperse cellulose acetate dyestuffs, especially those of the known slow-dyeing, high-temperature type, may also be used. Examples of suitable materials include those sold under the following names.

Premetallized dyestuffs:

- Irgalan Yellow 2 RL (C.I. Acid Orange 85)
- Irgalan Rubine RL (C.I. Acid Violet 75)
- Irgalan Bordeaux 2 BL (C.I. Acid Red 218)
- Irgalan Brown 2 RL (C.I. Acid Brown 45)
- Irgalan Brown 7RL (C.I. Acid Brown 47)
- Irgalan Orange RL (C.I. Acid Orange 86)
- Irgalan Red 3G (C.I. Acid Red 220)
- Irgalan Brown 5R (C.I. Acid Brown 48)
- Irgalan Brown 2GL (C.I. Acid Brown 44)
- Irgalan Brown 3BL (C.I. Acid Brown 46)
- Irgalan Yellow GL (C.I. Acid Yellow 114, Color Index, second edition, vol. I, p. 1050)
- Irgalan Green 3GL (C.I. Acid Green 57)
- Irgalan Olive BGL (C.I. Acid Black 64)
- Gycolan Black WAL (C.I. Acid Black 52, C.I. Part II 15711)
- Cibalan Corinth BL (C.I. Acid Violet 87)
- Cibalan Green GL (C.I. Acid Green 43)
- Vitrolan Orange R (C.I. Acid Orange 76, C.I. Part II 18870)

Direct cotton dyestuffs:

- Amanil Chrysophenine G (C.I. Direct Yellow 12, C.I. Part II 24895)

Acid dyestuffs:

- Xylene Milling Yellow P (C.I. Acid Yellow 61)
- Orasol Navy Blue RB (C.I. Solvent Blue 1)
- Orasol Violet 3B (C.I. Solvent Violet 6)

C.I.—Color Index, second edition, 1956 and supplements.

Erio Anthracene Rubine 3GP (C.I. Acid Red 57)
Artol Blue GL (No. 833, first edition of Color Index)
Leuco vat ester dyestuffs:
Indigosol Orange HR (C.I. Solubilized Vat Orange 5, C.I. Part II 73336)
Indigosol Brown IRRD (C.I. Vat Brown 5, C.I. Part II 73411)
Indigosol Bordeaux 12RN (C.I. Vat Red 4)
Indigosol Green 1GG (C.I. Solubilized Vat Green 2, C.I. Part II 59831)
Indigosol Yellow R (C.I. Solubilized Vat Yellow 6)
Indigosol Red 12B (C.I. Solubilized Vat Red 8)
Indigosol Olive Green 1B (C.I. Solubilized Vat Green 3, C.I. Part II 69501)
Indigosol Brilliant Pink 15B (C.I. Solubilized Vat Red 9)
Indigosal 04B (C.I. Solubilized Vat Blue 5, C.I. Part II, 73066)
Indigosol Scarlet 1B (C.I. Solubilized Vat Red 6, C.I. Part II 73356)
Indigosol Golden Orange 12R (C.I. Solubilized Vat Orange 2, C.I. Part II 59706)
Algosol Blue 06B (C.I. Solubilized Vat Blue 9, C.I. Part II 73071)
Disperse cellulose acetate dyestuffs:
Amacel Yellow CW (C.I. Disperse Yellow 42, C.I. No. 10338)
Unclassified dyestuffs:
Alcian Blue 6 GN (C.I. Ingrain Blue I, C.I. Part II 74240)

C.I.—Color Index, second edition, 1956 and supplements.

The dye-containing liquid composition or dyebath is preferably applied to the double-knit fabric material by a padding operation in which the said fabric material passes through the dyebath in a pad box, and is then squeezed between pad rolls to eliminate the excess liquid. The temperature at which the dyebath is applied may range, for example, from 20 to 30° C., a temperature of about 25° C. to about 30° C. being especially suitable. With the higher temperatures the water content of the dyebath is preferably rather high while the thiocyanate content is lower to avoid the possibility of damage due to coalescence of the cellulose ester fibers of which the double-knit fabric is comprised.

The double-knit fabric material that is colored in accordance with the present invention is produced by circular knitting a fibrous material that comprises a cellulose triester of the kind hereinbefore described. Preferably the double-knit fabric is slit to form an open-width fabric before it is brought into contact with the dyebath.

After the fabric has been contacted with an excess of the dyebath (as by immersion therein), it may be rinsed in cold water to terminate the dyeing action and to remove any loosely adhering dyestuff

The dyestuff is fixed on the fabric by suitable treatment, e.g., by a salt rinse of the kind, and used in the manner, described in Ward and Warner U.S. Patent 3,119,648, dated Jan. 28, 1964, more particularly in column 4, line 12, through line 9 in column 5 thereof. Following other appropriate rinse or rinses, the colored fabric is scoured and finished, including drying.

Various other means may be employed for fixing the dyestuff on the fabric. For example, such fixing agents may be comprised of salts such as those used in the salt rinse baths described in the aforementioned U.S. Patent No. 3,119,648, and which are preferably salts of monovalent cations, such as the alkali-metal and ammonium ions, and the anions of mineral acids or lower alkanoic acids. Typical examples of such salts are sodium acetate and ammonium acetate.

When the dyestuff is a leuco vat ester, a cold water rinse preferably precedes the aforesaid hot salt solution treatment if the latter is to be used. A suitable developing agent is included in the rinse water to develop the color. Sulfuric acid, in 3% concentration in the rinse water, is suitable for this purpose.

The entire operation of padding, treatment with hot salt solution (if used), plus any other rinses involved, may be carried out by means of continuous dyeing apparatus in which the double-knit fabric to be dyed is passed continuously at a rapid rate through a padding unit and then through a plurality of Williams units or wash boxes of conventional construction.

By using a pad-dyeing system and a dyebath containing an organic solvent, more particularly a mixture of water and an organic solvent, the cellulose triester fibers go through a solvated or plasticized state. This physical condition of the fibers can then be advantageously utilized under pad pressure to distinctly change the aesthetic characteristics of the double-knit fabric, e.g., fabric thickness and fabric firmness, and to effect this result without changing the surface or stitch appearance of the fabric.

Firming and thickening effects of the double-knit fabric can be controlled by introducing another (i.e., different) kind or kinds of fibrous or filamentary material into the yarn to be double knit. Such different fibrous material generally constitutes a minor amount (less than 50%) by weight of the yarn to be knitted (and of the double-knit fabric) while the cellulose triester, specifically cellulose triacetate, fibrous material constitutes the remainder. Thus the amount of the different fibrous material may range, for example, from about 5% to about 45% by weight of the double-knit fabric. The different fibrous material may, of course, constitute a major amount (more than 50%, e.g. from 51% to about 70 or 80% or more) by weight of the yarn to be knitted while the cellulose triester fibrous material constitutes the remainder; however, when this is done one loses many of the advantages inherent in the use of cellulose triester fibers in making the double-knit fabric.

The double-knit fabric material, when wet with dyebath, can be rinsed with cold water prior to a hot salt solution treatment such as that described in the aforementioned U.S. Patent No. 3,119,648. This is particularly desirable when the double-knit fabric contains animal or polyamide fibers such as wool, fibers from zein, silk, nylon or the like, in addition to cellulose triester fibers, and it is desired to color the triester fibers selectively. On the other hand, if union dyeings are desired, i.e., if it is desired to color both the cellulose triester fibers and the polyamide, there should not be a cold-water rinse; instead, the double-knit fabric should be passed directly from the dyebath to a hot salt solution if the latter is to be used. When such a union dyeing is desired, best results are achieved when the dyestuff is an acid dye, when the salt is sodium chloride, and when the time of contact between the double-knit fabric and the hot salt solution is at least about 5 minutes. Up to about 1 gram per liter of a lower aliphatic acid such as acetic acid can be included in the hot salt solution to aid in dyeing the polyamide.

In addition to the aforementioned polyamide fibers, other fibers that may be used to modify the cellulose triester fibers to produce a yarn of blended fibers that is circular knit to make a double-knit fabric include polyester fibers such as those comprised of polyethylene terephthalate, polypropylene fibers, polyvinylidene cyanide fibers, acrylic (polyacrylic) fibers such as those made of acrylonitrile polymers (homopolymeric and copolymeric acrylonitriles), viscose and cuprammonium rayons, cotton, linen, ramie, sisal and the like. Of course one should not use any modifying fibers that are deleteriously affected by the dyebath.

In order that those skilled in the art may better understand how the present invention can be carried into effect, the following examples are given by way of illustration and not by way of limitation. All parts and percentages are by weight unless otherwise stated.

EXAMPLE I

A circular knit fabric of yarn composed of 100% of cellulose triacetate having an acetyl value of 61.3% by weight calculated as combined acetic acid was immersed in a 2-roll pad dyeing machine in a dyebath containing 2% of Irgalan Yellow GL (C.I. Acid Yellow 114) dye dissolved in a liquid composed of 200 grams/liter of acetone-free diacetone alcohol, 250 grams/liter of glacial acetic acid, 100 grams/liter of sodium thiocyanate and 450 grams/liter of water. The machine operated at a speed of 15 yards/minute under a pressure of 6 tons, and the temperature of the dyebath was 28° C.

After the fabric was padded through the dyebath in one immersion, it was rinsed for 20 minutes on winch in cold water and again for 20 minutes on the winch with warm water. This was followed by a scouring on the winch for ½ hour using a solution of ½ gram/liter of "Igepon" fatty alkyl ester sulfonate anionic surfactant at 55–60° C., warm rinsing extracting and drying. A satisfactory dyed fabric having substantially no loss of stitch definition was obtained.

EXAMPLE II

The procedure of Example I was repeated except that the dyestuff is Vitrolan Orange R (C.I. Acid Orange 76, C.I. Part II No. 18870). Equivalent results are obtained.

EXAMPLE III

The procedure of Example I is repeated except that the circular knit fabric is produced with yarn composed of 50% of cellulose triacetate and 50% of cotton, and the liquid in which the dye is dissolved is composed of 20% of triethyl phosphate, 25% of glacial acetic acid, 10% of sodium thiocyanate, and 45% of water, the percentages being based on the weight of the total liquid. A dyed fabric having little loss of stitch definition and particularly good colorfastness and level of dyeing is obtained.

Satisfactorily dyed circular knit fabrics having little loss of stitch definition could be obtained following the procedure of the examples with any of the dyes listed above.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A colored double-knit fabric material free of distortion in the courses and wales of the double-pique stitch and having substantial retention of stitch definition, the fibers of which are substantially free of brittleness and comprise a cellulose organic acid ester having less than 0.29 free hydroxyl groups per anhydroglucose unit, produced by a method which comprises: contacting the uncolored double-knit fabric material with an excess of a liquid containing a dyestuff carried in a mixture of water, an organic solvent, and a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates; and removing the excess liquid from the thusly treated fabric material, scouring and finishing to obtain the colored double-knit material.

2. The product of claim 1 wherein the cellulose organic acid ester is cellulose acetate having an acetyl value of at least about 59 percent calculated as combined acetic acid.

3. The product of claim 1 wherein the fibers of which the double-knit fabric material is constituted additionally includes fibers of a different composition selected from the group consisting of cellulose fibers, animal fibers, polyamide fibers, polyester fibers and polyacrylic fibers.

4. A colored circular knit fibrous material free of distortion in the courses and wales of the double-pique stitch and having substantial retention of stitch definition, the fibers of which are substantially free of brittleness and comprise a cellulose organic acid ester having less than 0.29 free hydroxyl groups per anhydroglucose unit, produced by contacting said fabric material with an excess of a liquid containing a dyestuff carried in a mixture of water, an organic solvent, and a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates; and removing the excess liquid from the thusly treated fabric material, scouring and finishing to obtain a colored double-knit fabric material.

5. A colored circular knit fibrous material free of distortion in the courses and wales of the double-pique stitch and having substantial retention of stitch definition, the fibers of which are substantially free of brittleness and comprise a cellulose organic acid ester having less than 0.29 free hydroxyl groups per anhydroglucose unit, produced by slitting the resulting fabric to form an open-width fabric; contacting the said open-width fabric with an excess of a liquid containing a dyestuff carried in a mixture of water, an organic solvent, and a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates; and removing the excess liquid from the thusly treated fabric material, scouring and finishing to obtain a colored double-knit fabric material in open width.

6. A double-knit fabric material free of objectionable stitch distortion from coloring, the fibers of which are substantially free of brittleness and comprise cellulose acetate having an acetyl value of at least about 59 percent calculated as combined acetic acid, produced by pad dyeing the said fabric material using a dyebath containing a dyestuff dissolved in a solution comprising water, a monohydric alcohol, and a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates; and scouring and finishing the pad-dyed fabric material.

7. A colored double-knit fabric material free of distortion in the courses and wales of the double-pique stitch and having substantial retention of stitch definition, the filaments of which are substantially free of brittleness and comprise cellulose acetate having an acetyl value of at least about 59 percent, calculated as combined acetic acid, produced by immersing said fabric material in a dyebath containing a dyestuff dissolved in a solution comprising water, a monohydric aliphatic alcohol, and a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates; and squeezing the thusly treated fabric material by passage between adjacent moving surfaces to remove excess dyebath solution, scouring and finishing to obtain a colored double-knit fabric material comprised of the aforementioned filaments that shows no objectionable stitch distortion.

8. The product of claim 7 wherein the fabric material is colored with a disperse cellulose acetate dyestuff.

9. The product of claim 7 wherein the fabric material is colored in a dyebath containing a monohydric aliphatic alcohol which is a lower alkanol.

10. The product of claim 7 wherein the fabric material is colored in a dyebath containing a dyestuff dissolved in a solution comprising, by weight, from 5 to 25 parts of acetic acid, from 5 to 55 parts of water, from 25 to 70 parts of an alcohol, and from 5 to 12 parts of a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates.

11. The product of claim 7 wherein the fabric material is colored in a dyebath containing a dyestuff dissolved in a solution comprising, by weight, from 5 to 35 parts of water, from 65 to 95 parts of an alcohol, and from 8 to 14 parts of a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates.

12. The product of claim 7 wherein the fabric material is colored in a dyebath, which in addition to the dyestuff, comprises a single-phase solvent consisting of

at least 20 percent by weight of water and at least 30 percent by weight of an organic swelling agent for the defined cellulose ester, at least 10 percent by weight of said solvent being a primary swelling agent selected from the group consisting of polyhydric alcohol ethers, polyhydric alcohol esters, diacetone alcohol and alkyl phosphates, said solvent having dissolved therein from 4 to 12 percent by weight of a thiocyanate selected from the group consisting of the alkali-metal and ammonium thiocyanates.

13. The product of claim 7 wherein the fabric material is colored with an acid dyestuff.

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