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PROCESS OF DYEING

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1 Claim. (Cl. 8—24)

The present invention relates to a process of dyeing mixed fabrics consisting of cellulose or regenerated cellulose and cellulose-esters or -ethers.

In the dyeing of mixed fabrics consisting of cellulose or regenerated cellulose and cellulose-esters or -ethers with so-called diazo colors it has proved very disadvantageous that, although the substantive diazo colors do not dye cellulose esters or do so only very little, after some time or during longer storing of dyeings developed with β-naphthol comparatively strong yellowish stainings appear on the ester-component of the mixed fabric by which the intended effects cannot be achieved to a sufficient degree.

It has now been found that this subsequent coloring of the cellulose-esters or -ethers can be avoided by using instead of β-naphthol in the developing process the 1-methylol-2-hydroxynaphthalene or the 2-hydroxy-naphthalene-1-carboxylic acid. Thus on the cellulose component of the mixed fabric the same shades are obtained as in the development with β-naphthol, since the methylol radical and the carboxylic acid group are split off. In this case, however, the subsequent coloring of the cellulose-ester or -ether-component can no longer be observed even in prolonged storing, since the two mentioned compounds possess in contradistinction to β-naphthol no or only slight affinity to cellulose-esters or -ethers.

It has been already known that 2-hydroxynaphthalene-1-carboxylic acid acts in the coupling reaction like β-naphthol (Berichte der Deutschen Chemischen Gesellschaft, vol. 20 [1887], p. 1274). 2-hydroxynaphthalene-1-carboxylic acid has also been used in the printing and dyeing of textiles (German Patent 238,841) and chiefly in the printing process on account of the lower volatility of the 2-hydroxynaphthalene-1-carboxylic acid in comparison with β-naphthol. It has also recently been found that 1-methylol-2-hydroxynaphthalene splits off the methylol radical in coupling. These known facts, however, did not allow to foresee that in dyeing mixed fabrics of the mentioned kind by the use of the above compounds the technically important effect of leaving the cellulose-ester or -ether-components unstained, can be achieved.

The following examples illustrate the invention without, however, restricting it thereto.

Examples

1. A mixed fabric of viscose and acetate artificial silk is dyed in the usual way with 4.5% of the dyestuff of the constitution: m-aminobenzoyl-p-phenylenediamine sulfonic acid→pyrazolone of dehydrothiotoluidine sulfonic acid. After dyeing the material is thoroughly rinsed, diazotized in the usual manner and developed for 20 minutes at room temperature in a freshly prepared bath containing 2% (calculated on the weight of the dyed material) of a weakly alkaline solution of 2-hydroxynaphthalene-1-carboxylic acid in water. Thereupon the material is rinsed and dried.

Compared with a dyeing obtained in the same way with β-naphthol also after longer storing no subsequent yellowing of the acetate artificial silk occurs. The dyeings on the viscose artificial silk show practically no difference in the shades and fastness properties.

When dyeing the mixed fabric with dyestuffs of other constitution, for instance

2. Aminoazotoluene sulfonic acid→p-aminobenzoyl-J-acid or with

3. p-phenylenediamine→Cleve's acid→Cleve's acid→Nevile-Winther acid or with

4. Acetyl-p-phenylenediamine→gamma acid, saponified, tetrazotized→Cleve's acid+gamma acid; and many others and by developing in the manner described under 1, the same result is to be observed.

The same shades are obtained and also subsequent yellowing is avoided by developing the mentioned dyestuffs after diazotization with a weakly alkaline solution of 2% 1-methylol-2-hydroxynaphthalene in water. Thereby it does not make any difference whether the previously prepared 1-methylol-2-hydroxynaphthalene is dissolved with sodium hydroxide solution in water or whether the substance is directly prepared before using by adding formaldehyde to a 2% weakly sodium alkaline solution of β-naphthol in water.

There are also no differences observed when a mixed fabric of cotton or other vegetable fibers or other kinds of regenerated cellulose and acetate artificial silk are dyed in the aforementioned manner.

We claim:

In the process of dyeing mixed fabrics consisting of cellulose or regenerated cellulose and cellulose-esters or -ethers with so-called diazo colors, in which process the dyestuffs are diazotized on the fiber and developed, the modification which comprises using as developer a compound of the group consisting of 1-methylol-2-hydroxynaphthalene and 2-hydroxynaphthalene-1-carboxylic acid.

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