The present invention relates to an improvement in the treatment of textiles of various kinds, especially artificial fibers of all kinds.

For treating textiles, for instance, for softening the different artificial fibers, preferably high molecular bases are used such as, for instance, stearyl amine, oleyl amine or dodecyl amine as well as the guanides derived from these bases and furthermore acetylated alkylene diamines containing the radicle of a higher fatty acid such as, for instance, stearylaminoethylenedimethylaminc, imidazole derivatives of the said amines and similar compounds. The use of these compounds embraces the disadvantage that they form insoluble precipitates with sulfate and phosphate ions present as well in the usual water supplies as in the softened waters. In this connection similar disadvantages occur as in the use of the usual soaps in lime containing waters.

Now, we have found that the formation of precipitates in baths for treating textiles, may be completely hindered when using the high molecular bases and their derivatives mentioned above, together with dispersing agents being free from acid groups. It is known that with the aid of these dispersing agents the formation of precipitations of lime soaps may be hindered; the highly dispersed lime soaps formed in this manner, however, do not act as a soap.

The present invention is based on the observation that the amino compounds, mentioned above, practically have the same action on textiles in the presence of a dispersing agent free from acid groups, independently whether the treating bases used contain inorganic or organic acids which form difficultly soluble precipitates with the basic compounds.

As dispersing agents free from acid radicals primary the water-soluble polyglycol- or polyglycerine ether and ester of the higher fatty alcohols or highly alkylated phenols (dodecyl phenol) or of the higher fatty acids respectively, may be used. These ethers and esters of polyglycols and polyglycerines shall contain an aliphatic radicle of at least 10 carbon atoms.

Especially valuable softening agents are obtained by mixing higher alkyl biguanides and their salts with esters of soap-forming fatty acids containing hydroxy groups. Compounds of this constitution are known to have a softening effect on textiles. They may be saturated or unsaturated compounds and may contain straight or branched carbon chains and, the case given, may be substituted. There may be mentioned, for instance, glycol and polyglycol ester of these fatty acids or the corresponding esters of glycerine and polyglycerine, esters of erythrite, sorbite and the hydroxyethylated derivatives of such compounds. As alkyl biguanides containing at least 10 carbon atoms in the alkyl radicle, there may be mentioned, for instance, dodecyl biguanide, tetradecyl biguanide, cetyl biguanide, octadecyl biguanide and oleyl biguanide. The action of these mixtures which may contain more than two constituents, is essentially better than that of the single constituent; while for gaining a suitable softening effect on textile materials, for instance, 0.1 gram of stearyl biguanide hydrochloride per liter of the treating bath and of stearic acid polyglycol ester even 2 grams per liter are necessary, the same softening effect is obtained when using 0.10 gram per liter of a mixture consisting of equal parts of both these components. By a suitable choice and proportion of the components in the mixture the kind of improvement of the different textiles consisting of animal or vegetable fibers, artificial fibers, such as viscose silk, copper silk and the various acetate silks, and mixed fabrics of these fibers may be modified with respect to smoothness and feel.

The following examples serve to illustrate our invention, the parts being by weight:

Example 1.—50 parts of stearyl biguanide hydrochloride and 25 parts of dispersing agents consisting of oleyl alcohol polyglycol ether as obtainable according to Example 4 of German Patent No. 605,973 are stirred together with 25 parts of water. The paste thus obtained is a very effective softening agent for artificial silk. The feel of fabrics treated in a bath containing 0.2 gram per liter of this mixture is thereby rendered soft and full. This preparation may be used as well in condensed water as in water containing sulfate ions.

Similar effects are obtained with the aid of preparations having the following composition:

2 parts of stearylformoguanamine and
1 part of oleylpolysorbic ether, or
1 part of stearlylglycerol ester and
1 part of a 30 per cent. solution of polyhydroxyethylated isododecyphenol, or
1 part of stearyl biguanide-acetate and
1 part of stearylmethanolylmethylenedimethylamine hydrochloride and
1 part of oleylpolysorbic ether, or
1 part of stearylaminomethylxazolidine and
1 part of polyhydroxyethylated isododecyphenol.
Example 2.—50 parts of stearyl biguanide hydrochloride and 50 parts of the reaction product of one molecular proportion of stearic acid with 6 mol of ethylene oxide, are melted together.

When treating viscose silk containing 0.05 gram per liter of this mixture there is obtained a soft, full feel. The preparation does not become ineffective in the presence of sulfate ions, acids or alkalies.

When substituting the stearic acid polyglycol ester by stearic acid polyglyceride a softening agent is obtained which has the same good properties.

The esters mentioned above, likewise may be partly substituted by mono esters of higher fatty acids with polyvalent alcohols, ether alcohols and di- or triethanolamine as well as by the hydroxethylated derivatives of these compounds.

Stearyl biguanide hydrochloride, likewise, may be used together with mixtures of the said compounds and in this manner it becomes possible to modify the feel of the fabric. A very effective mixture consists of 33 parts of stearyl biguanide hydrochloride, 33 parts of stearic acid polyglyceride and 33 parts of the polyglycol ethers of the stearic acid triethanolamine ester.

Example 3.—1 part of stearyl biguanide hydrochloride, 1 part of oleyl polyglycol ether and 2 parts of a triethanolamine stearic acid ester, after-treated with ethylene oxide, are melted together. Viscose silk treated in a bath containing 0.05 gram per liter of this preparation acquires a soft and full feel.

Similar effects are obtained with the aid of preparations having the following composition:

<table>
<thead>
<tr>
<th>Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stearyl biguanide hydrochloride</td>
</tr>
<tr>
<td>Oleyl polyglycol ether</td>
</tr>
<tr>
<td>Stearic acid ester of triethanolamine</td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stearyl biguanide hydrochloride</td>
</tr>
<tr>
<td>Stearic acid polyglycol ester</td>
</tr>
<tr>
<td>A 30 per cent. solution of sodium</td>
</tr>
<tr>
<td>Oleylsarkoside</td>
</tr>
</tbody>
</table>

What we claim is:

1. The process for improving textile fabrics which comprises treating them in a bath containing a high molecular base and a dispersing agent of the group consisting of ethers and esters free from acid groups and containing an aliphatic radicle of at least 10 carbon atoms.

2. The process for improving textile fabrics which comprises treating them in a bath containing a high molecular base and a dispersing agent of the group consisting of ethers and esters free from acid groups, and containing an aliphatic radicle of at least 10 carbon atoms in the presence of an ester of a soap-forming fatty acid containing hydroxy groups.

3. The process for improving textile fabrics which comprises treating them in a bath containing a biguanide of a high molecular base and a dispersing agent of the group consisting of ethers and esters free from acid groups, and containing an aliphatic radicle of at least 10 carbon atoms.

4. The process for improving textile fabrics which comprises treating them in a bath containing a high molecular base and a dispersing agent of the group consisting of ethers and esters free from acid groups containing a hydroxy polyether radicle and an aliphatic radicle of at least 10 carbon atoms.

5. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine and a dispersing agent of the group consisting of ethers and esters free from acid groups containing a hydroxy polyether radicle and an aliphatic radicle of at least 10 carbon atoms.

6. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine and oleyl polyglycol ether.

7. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine and oleyl polyglycol ether and a triethanolamine ester.

8. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine and polyglycol ester.

9. The process for improving textile fabrics which comprises treating them in a bath containing a high molecular base and a dispersing agent of the group consisting of ethers and esters free from acid groups containing a hydroxy polyether radicle and an aliphatic radicle of at least 10 carbon atoms in the presence of an ester of a soap-forming fatty acid containing hydroxy groups.

10. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine and a dispersing agent of the group consisting of ethers and esters free from acid groups containing a hydroxy polyether radicle and an aliphatic radicle of at least 10 carbon atoms in the presence of an ester of a soap-forming fatty acid containing hydroxy groups.

11. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine and oleyl polyglycol ether and a triethanolamine ester.

12. The process for improving textile fabrics which comprises treating them in a bath containing a salt of stearyl biguanidine, oleyl polyglycol ether and hydroxyethylated triethanolamine stearic acid ester.

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