The present invention relates to an aqueous-alcoholic hair grooming preparation and more particularly to an aqueous-alcoholic hair grooming preparation of the type containing in combination with other ingredients sodium carboxymethyl cellulose and an organic ester.

It is an object of the present invention to provide an aqueous-alcoholic hair grooming preparation possessing improved properties that will produce improved effects when properly used.

It is a still further object of the present invention to provide a novel aqueous-alcoholic hair grooming preparation that contains in addition to other ingredients sodium carboxymethyl cellulose in combination with an organic ester.

Other and further objects of the present invention will become apparent from a consideration of the following description.

The novel aqueous-alcoholic hair grooming preparation of the present invention contains sodium carboxymethyl cellulose with an organic ester compounded with other ingredients to give the composition suitable properties for the application to the hair, e.g., in the form of a clear liquid.

The organic ester employed in the present formulation may be an ester formed from a polyoxyalkylene glycol and a long chain fatty acid. Also an ester formed from a long chain fatty acid and an alkylen glycol may be employed in the present composition. If desired, both types of these esters may be employed in the composition. These organic esters serve to solubilize the sodium carboxymethyl cellulose in the aqueous-alcohol medium. Any of the long chain fatty acids may be employed to form the above mentioned esters and it is within the purview of the present invention that the carbon atom content of the fatty acids be from about 8 to 24, and preferably from about 12 to about 18. A specific example of an ester formed from a polyoxyalkylene glycol and a long chain fatty acid which has been found to be particularly suitable for use in accordance with the present invention is a monoester obtained by reacting the mixed fatty acids obtained from coconut oil with polyoxyethylene glycol having an average molecular weight of about 600. As typical of an alkylen glycol ester of a higher fatty acid is propylene glycol monolaurate. This compound is a monoester of propylene glycol and lauric acid. Examples of fatty acids that may be employed to form the esters above referred to are lauric, palmitic, myristic, stearic, oleic, linoleic and the mixed fatty acids obtained from coconut oil.

Other compounds in addition to water, alcohol, sodium carboxymethyl cellulose and organic esters may be included within the formulation, such as rubefacients, germicidal agents and perfume oils.

Aqueous solutions of sodium carboxymethyl cellulose may be added to the composition to give a tingling and stimulating effect to the scalp. Typical examples of the rubefacients employed are tincture of capsicum, menthol, turpentine and mustard oil.

The germicidal agent is added to the composition to destroy the microorganisms customarily found on the hair and scalp. The type of germicidal agent which proved most satisfactory was a cationic quaternary ammonium compound. More particularly, cetly dimethyl-ethyl ammonium bromide was employed although it should be understood that other germicides such as hydroxy halogeno diphenyl alkane or more particularly, hydroxyl chloro-diphenyl methane may be used.

As referred to hereinbefore the hair grooming preparation is one containing alcohol. The alcohol not only acts as a carrier for the remaining constituents but acts also to give a warming effect to the scalp. Among the alcohols which may be used are ethyl, propyl, isopropyl, butyl and isobutyl, i.e., the lower liquid aliphatic alcohols.

In determining the proportions of each compound in the hair grooming preparation, it was found that the proportion of sodium carboxymethyl cellulose in the preparation should be maintained between about 0.25 to about 2.00% and preferably between about 0.75 to about 1.25%. That the proportion of the ester formed from a polyoxyalkylene glycol and a long chain fatty acid should be maintained preferably within a range of 5 to 15%, that the proportion of the ester formed from an alkylene glycol and a long chain fatty acid should be maintained preferably between 1 to 5%, that the proportion of rubefacient employed should be maintained within a range of 0.01 to 0.1%, that the proportion of germicidal agent employed should be maintained preferably within a range of 0.05 to 2.00% and that the alcohol employed should be maintained preferably within a range of 30 to 60%.

The perfume oil is added only to give the composition a pleasant smelling effect and therefore may vary, depending upon the strength of the perfume and its ability to combine with the remaining constituents.

To illustrate the general process of preparing an aqueous-alcoholic hair preparation of this type the ester or esters, rubefacient, germicidal agent, alcohol, and perfume oil are first mixed thoroughly and then added to an aqueous solution of the sodium carboxymethyl cellulose. The addition is made with a high speed mixer such as an Eppenbach homo mixer.

Having described the present invention in its broader aspects, a more detailed example of the composition in accordance therewith is now given in order to assist in a better understanding of its various ramifications, it being understood that this is included herein for purposes of illustration rather than limitation. Percentages are by weight throughout the specification and claims unless otherwise indicated.

Example I

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2% aqueous solution of sodium carboxymethyl cellulose</td>
<td>47.850</td>
</tr>
<tr>
<td>Ethyl alcohol SD 40</td>
<td>39.70</td>
</tr>
<tr>
<td>Monoester of polyoxyethylene glycol having an average molecular weight of about 600 and the fatty acids obtained from coconut oil</td>
<td>10.00</td>
</tr>
<tr>
<td>Propylene glycol monolaurate</td>
<td>2.00</td>
</tr>
<tr>
<td>Tincture of capsicum</td>
<td>0.050</td>
</tr>
<tr>
<td>Cetyl dimethylammonium bromide</td>
<td>0.10</td>
</tr>
<tr>
<td>Perfume oil</td>
<td>0.30</td>
</tr>
</tbody>
</table>

This product was tested at low temperatures for clouding and was found to be clear at a temperature as low as 34° F.

Summarizing, the present invention is based upon a new composition which comprises sodium carboxymethyl cellulose and an organic ester or esters to form a highly effective hair grooming preparation.

While the invention has been described in terms of
preferred embodiments, thereof, it is to be understood that considerable variations from the details disclosed might be made without departing from the true scope and spirit of the invention. Accordingly, the invention is to be limited only by the claims set forth hereinafter.

What is claimed is:

1. A clear liquid hair grooming preparation comprising an aqueous alcohol mixture of sodium carboxymethyl cellulose, an ester formed from a polyoxyalkylene glycol and a long chain fatty acid having a chain length of from about 8 to 24 carbon atoms, and an ester formed from an alkylene glycol and a long chain fatty acid having a chain length of from about 8 to 24 carbon atoms, said esters serving to solubilize the sodium carboxymethyl cellulose in the preparation.

2. A clear liquid hair grooming preparation comprising an aqueous alcohol mixture of sodium carboxymethyl cellulose, a monoester of polyoxyethylene glycol having an average molecular weight of about 600 and the fatty acids obtained from coconut oil, and propylene glycol monolaurate, these esters serving to solubilize the sodium carboxymethyl cellulose in the preparation.

3. A clear liquid hair grooming preparation comprising an aqueous alcohol mixture including 0.25 to 2.00% sodium carboxymethyl cellulose, 5 to 15% of an ester formed from a polyoxyalkylene glycol and a long chain fatty acid, and 1 to 5% of an ester formed from an alkylene glycol and a long chain fatty acid, said esters serving to solubilize the sodium carboxymethyl cellulose in the preparation.

4. A clear liquid hair grooming preparation comprising an aqueous alcohol mixture of sodium carboxymethyl cellulose, an ester formed from a polyoxyalkylene glycol and a long chain fatty acid having a chain length of from about 8 to 24 carbon atoms, an ester formed from an alkylene glycol and a long chain fatty acid having a chain length of from about 8 to 24 carbon atoms, said esters serving to solubilize the sodium carboxymethyl cellulose in the preparation, a rubefacient, and a germicidal agent.

5. A clear liquid hair grooming preparation comprising an aqueous alcohol mixture including 0.25 to 2.00% sodium carboxymethyl cellulose, 5 to 15% of a monoester of polyoxyethylene glycol having an average molecular weight of about 600 and the fatty acids obtained from coconut oil, 1 to 5% propylene glycol monolaurate, these esters serving to solubilize the sodium carboxymethyl cellulose in the preparation, 30 to 60% ethyl alcohol, 0.01 to 0.1% tincture of capsicum and 0.05 to 2.00% cetyltrimethylammonium bromide.

6. A clear liquid hair grooming preparation consisting essentially of 47.85% of a 2% aqueous solution of sodium carboxymethyl cellulose, 38.7% ethyl alcohol, 10.0% of a monoester of polyoxyethylene glycol having an average molecular weight of about 600 and the fatty acids obtained from coconut oil, 2.0% propylene glycol monolaurate, these esters serving to solubilize the sodium carboxymethyl cellulose in the preparation, 0.05% tincture of capsicum, 0.10% cetyltrimethylammonium bromide and 0.30% perfume oil.

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