Title: COSMETIC DEPILATORY COMPOSITION

Abstract: A cosmetic cold-wax depilatory composition is provided. The depilatory composition comprises a hydrocarbon resin, from 50% to 99% by weight and a flexibilizer or plasticizer, from 0.5% to 10% by weight. Methods of applying the composition to a strip of material for removal of hair without the need for heating are also provided.
COSMETIC DEPILATORY COMPOSITION

Cross-Reference to Related Application

This application is related to Spanish Patent Application Serial No. 200700448 filed February 21, 2007 and takes priority therefrom.

Description

Subject of the Invention

The present invention relates to a cosmetic depilatory composition, which comprises a hydrocarbon resin and a flexibilizer or plasticizer, that can be used for cold depilation.

Background of the Invention

Presently, in both domestic and professional settings, wax depilation is one of the methods most often used for removing hair from different areas of the body to achieve the desired aesthetic and hygienic objectives.

For this purpose, hot, warm or cold waxes are used, which adhere firmly to the hair and permit it to be pulled out together with the hair follicle (commonly described as "by the root").

Hot waxes are solid at room temperature, are heated until they reach a sticky liquid state, and are applied using a spatula or special applicator. The applied hot waxes are allowed to cool and are peeled off.

Warm waxes are semisolid at room temperature, are slightly heated until they reach a sticky liquid state, and are applied using a spatula or special applicator. The warm waxes must be removed with the aid of strips of nonwoven cloth, cellophane or other materials.

Cold waxes are semi-solid at room temperature, are sold preappied to strips of non-woven cloth, cellophane or other materials. These strips with preappied wax are applied directly without need of heating and are peeled off. At the present time, the composition of these cold waxes is based on colophony (pine resin), colophony derivatives, paraffin, silica, oils, microcrystalline waxes, beeswax or polymers, among
other ingredients, which fulfill different functions in the formulation of cold wax. The main components (those responsible for the adhesion) are colophony and its derivatives. Colophony is a solid, dark brown or yellowish resin, obtained as a residue from the distillation of turpentine. Due to the intrinsic nature of pine resin and its derivatives, cold waxes acquire a characteristic odor (typical of colophony and reminiscent of turpentine) and color (dark golden-brown) that make it difficult or impossible to color and perfume as demanded by cosmetic market trends. There also exist on the market some cold waxes based on glucose and other saccharides derived from sugar, which in the manufacturing process acquire a characteristic odor (burnt sugar) and color (dark golden-brown) that also make it difficult or impossible to color and perfume as demanded by cosmetic market trends.

The present invention describes a cosmetic depilatory composition of odorless, colorless, transparent cold wax, which can be easily colored and perfumed, permitting the development of more aesthetic and sophisticated products, in line with the cosmetic trends of the current market.

Description of the Invention

The subject of the present invention is a cosmetic cold-wax depilatory composition which comprises the following ingredients:

(a) hydrocarbon resin, from 50% to 99% by weight;
(b) flexibilizer or plasticizer, from 0.5% to 10% by weight, where said composition is preapplied to strips.

In one embodiment of the invention, the hydrocarbon resin is chosen from the group consisting in hydrogenated styrene-methylstyrene indene copolymers, olefin-styrene copolymers, and hydrogenated polycyclopentadiene.

In one embodiment of the invention, the hydrogenated styrene-methylstyrene-indene copolymer is chosen between Regalite™ 1090 or Regalite™ 1010 from the Eastman Chemical Company.

In one embodiment of the invention, the olefin-styrene copolymer is Escorez™ 2520 from Exxon Mobil Chemical.

In one embodiment of the invention, the hydrogenated polycyclopentadiene is Escorez™ 5380 from Exxon Mobil Chemical.
In one embodiment of the invention, the flexibilizer or plasticizer is chosen from the group consisting of alkyl methicones, olefins, microcrystalline waxes, synthetic beeswaxes, and dimeric alkyl esters of synthetic long-chain fatty alcohols.

In one embodiment of the invention, the alkyl methicone is Dow Coming's C30-45 alkyl methicone.

In one embodiment of the invention, the olefin is Dow Coming's C30-45, olefin. The mixture of C30-45 dimethicone and C30-45 olefin is Dow Coming's AMS-C30 wax.

In one embodiment of the invention, the microcrystalline wax is chosen from among microcrystalline waxes that have a melting point between 70°C and 90°C.

In one embodiment of the invention, the synthetic beeswax is Koster Keunen's KesterWax K80H.

In one embodiment of the invention, the dimeric alkyl ester of synthetic long-chain fatty alcohols is Koster Keunen's KesterWax K82D.

The cosmetic depilatory composition of the present invention is a semisolid wax suitable for preapplication to strips, which permits the production of odorless, colorless, transparent cold wax strips that can easily be perfumed and colored, resulting in waxes that are more esthetic and sophisticated, and more oriented toward the cosmetic trends of the current market, unlike the current products which have the characteristic odor and color of colophony and/or its derivatives, and are difficult to color and perfume.

In one embodiment of the invention, the cosmetic depilatory composition additionally comprises:

(c) pigments and colorants of various kinds, from 0.0001% to 3% by weight

(d) perfume, from 0.0001 % to 3% by weight

(e) active cosmetic ingredients, natural or synthetic, of different kinds and different cosmetic properties, such as vegetable oils, essential oils, or plant-derived extracts, from 0.0001 % to 3% by weight.

In one embodiment of the invention, the pigments and colorants are chosen from the group consisting of chlorophyl, carmine, reflective pigments with a base of calcium aluminum borosilicate and/or lacquers predispersed in castor oil.

In one embodiment of the invention, the active cosmetic ingredients, natural or synthetic, are chosen from a group composed of liposoluble extracts (oils and waxes) of fruits, flowers, plants, and/or essential oils.
Examples

Some non-limiting examples of the invention are described below:

*Example 1: Cold wax with reflective particles*

A depilatory composition comprising the following ingredients was prepared:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogenated styrene-methylstyrene-indene copolymer</td>
<td>85 - 99</td>
</tr>
<tr>
<td>C30-45 alkyl methicone</td>
<td>0.5 - 10</td>
</tr>
<tr>
<td>C30-45 olefin</td>
<td>0.5 - 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflective pigments with a base of calcium aluminum borosilicate</td>
<td>0.0001 - 3</td>
</tr>
<tr>
<td>Pigments, colorants</td>
<td>0.0001 - 3</td>
</tr>
<tr>
<td>Perfume</td>
<td>0.0001 - 3</td>
</tr>
<tr>
<td>Active cosmetic ingredients, natural or synthetic</td>
<td>0.0001 - 3</td>
</tr>
</tbody>
</table>

The procedure for obtaining said composition was as follows. All components of the mixture (excepting the pigments, colorants, perfume and active ingredients) were heated to a temperature between 100°C and 120°C, with continual stirring in order to assure a homogeneous mixture and to avoid the incorporation of air. Once a transparent, colorless, homogeneous liquid mixture was obtained, the rest of the components (pigments, colorants, perfume and active ingredients) were added and cooling was initiated, without discontinuing the stirring to avoid the incorporation of air.
Example 2: Odorless, colorless, transparent cold wax 1

A depilatory composition comprising the following ingredients was prepared according to the procedure described in Example 1:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogenated styrene-methylstyrene-indene copolymer</td>
<td>85 - 99</td>
</tr>
<tr>
<td>C30-45 alkyl methicone</td>
<td>0.5 - 10</td>
</tr>
<tr>
<td>C30-45 olefin</td>
<td>0.5 - 10</td>
</tr>
</tbody>
</table>

Example 3: Odorless, colorless, transparent cold wax 2

A depilatory composition comprising the following ingredients was prepared according to the procedure described in Example 1:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5-6 olefin-styrene copolymer</td>
<td>50 - 65</td>
</tr>
<tr>
<td>Hydrogenated polycyclopentadiene</td>
<td>40 - 55</td>
</tr>
<tr>
<td>Microcrystalline wax</td>
<td>0.5 - 10</td>
</tr>
</tbody>
</table>

Example 4: Odorless, colorless, transparent cold wax 3

A depilatory composition comprising the following ingredients was prepared according to the procedure described in Example 1:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogenated styrene-methylstyrene-indene copolymer</td>
<td>85 - 99</td>
</tr>
<tr>
<td>Microcrystalline wax</td>
<td>0.5-1 0</td>
</tr>
</tbody>
</table>
Example 5: Odorless, colorless, transparent cold wax 4

A depilatory composition comprising the following ingredients was prepared according to the procedure described in Example 1:

Ingredients % by weight
Hydrogenated styrene-methyistyrene-indene copolymer 85 - 99
Synthetic beeswax 0.5 - 10

Example 6: Odorless, colorless, transparent cold wax 5

A depilatory composition comprising the following ingredients was prepared according to the procedure described in Example 1:

Ingredients % by weight
Hydrogenated styrene-methyistyrene-indene copolymer 85 - 99
Dimer linoleate of C20-40 0.5 - 10
What is claimed is:

1. A cosmetic cold-wax depilatory composition, comprising:
   (a) hydrocarbon resin, from 50% to 99% by weight, and
   (b) flexibilizer or plasticizer, from 0.5% to 10% by weight,
   wherein said composition is applied to strips of material that can be applied to the body for removal of hair.

2. The cosmetic cold-wax depilatory composition according to Claim 1, characterized in that the hydrocarbon resin is selected from the group consisting of hydrogenated styrene-methylstyrene-indene copolymers, olefin/styrene copolymers, and hydrogenated polycyclopentadiene.

3. The cosmetic cold-wax depilatory composition according to Claim 2, characterized in that the hydrocarbon resin is a hydrogenated styrene-methylstyrene-indene copolymer.

4. The cosmetic cold-wax depilatory composition according to Claim 2, characterized in that the hydrocarbon resin is a olefin-styrene copolymer.

5. The cosmetic cold-wax depilatory composition according to Claim 2, characterized in that the hydrocarbon resin is a hydrogenated polycyclopentadiene.

6. The cosmetic cold-wax depilatory composition according to Claim 1, characterized in that the flexibilizer or plasticizer is chosen from a group consisting of alkyl methicones, olefins, microcrystalline waxes, synthetic beeswaxes, and dimeric alkyl esters of synthetic long-chain fatty alcohols.

7. The cosmetic cold-wax depilatory composition according to Claim 6, characterized in that the flexibilizer or plasticizer is an alkyl methicone or olefin or mixture thereof.
8. The cosmetic cold-wax depilatory composition according to Claim 6, characterized in that the flexibilizer or plasticizer is a microcrystalline wax having a melting point between 70°C and 90°C.

9. The cosmetic cold-wax depilatory composition according to Claim 6, characterized in that the flexibilizer or plasticizer is a synthetic beeswax.

10. The cosmetic cold-wax depilatory composition according to Claim 6, characterized in that the flexibilizer or plasticizer is a dimeric alkyl ester of synthetic long-chain fatty alcohols.

11. The cosmetic cold-wax depilatory composition according to Claim 1, characterized in that it additionally comprises:
   (c) pigments and colorants of various kinds, from 0.0001% to 3% by weight
   (d) perfume, from 0.0001% to 3% by weight
   (e) active cosmetic ingredients, natural or synthetic, selected from vegetable oils, essential oils, or plant-derived extracts, from 0.0001% to 3% by weight.

12. The cosmetic cold-wax depilatory composition according to Claim 11, characterized in that the pigments and colorants are chosen from the group consisting of chlorophyll, carmine, reflective pigments with a base of calcium aluminum borosilicate and/or driers predispersed in castor oil.

13. The cosmetic cold-wax depilatory composition according to Claim 11, characterized in that the active cosmetic ingredients, natural or synthetic, are chosen from the group consisting in liposoluble extracts (oils and waxes) of fruits, flowers, plants, and/or essential oils.

14. A method of removing hair from the body by cold depilation comprising applying onto a portion of the body that contains hair a strip of material having preapplied thereon a cold-wax depilatory composition comprising (a) hydrocarbon resin, from 50% to 99% by weight, and (b) flexibilizer or plasticizer, from 0.5% to 10% by weight, and peeling off said strip of material from the skin.
15. The method of Claim 14, wherein said strip of material is applied to said skin without heating.

16. The method of Claim 14, wherein said strip of material is a non-woven cloth or cellophane.

17. The method of Claim 14, characterized in that said hydrocarbon resin is selected from the group consisting of hydrogenated styrene-methylstyrene-indene copolymers, olefin/styrene copolymers, and hydrogenated polycyclopentadiene.

18. The method of Claim 14, wherein said flexibilizer or plasticizer is chosen from the group consisting of alkyl methicones, olefins, microcrystalline waxes, synthetic beeswaxes, and dimeric alkyl esters of synthetic long-chain fatty alcohols.

19. The method of Claim 14, wherein said cold-wax depilatory composition additionally comprises:
   (c) pigments and colorants from 0.0001% to 3% by weight
   (d) perfume, from 0.0001% to 3% by weight
   (e) active cosmetic ingredients, natural or synthetic, selected from vegetable oils, essential oils, or plant-derived extracts, from 0.0001% to 3% by weight.

20. A strip of material having applied thereto a cold-wax depilatory composition comprising:
   (a) hydrocarbon resin, from 50% to 99% by weight, and
   (b) flexibilizer or plasticizer, from 0.5% to 10% by weight.
INTERNATIONAL SEARCH REPORT

International application No
PCT/US 08/54565

According to International Patent Classification (IPC) or to both national classification and IPC

A CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A61 Q 9/04 (2004.08)
USPC - 132/202

B FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Additional search classes USPC 42/70.1 and IPC(8) A61K 8/92 (2004.08) (search terms below)

C DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<td>X</td>
<td>US 2004/0175340 A1 (Gupta) 09 September 2004 (09 09 2004) para [0013], para [0018], para [0020-0021], para [0023], para [0025], para [0028-0035]</td>
<td>1, 6, 7, 9, 14-16, 18, and 20</td>
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US 2004/0175340 A1 (Gupta) 09 September 2004 (09 09 2004) para [0013], para [0018], para [0020-0021], para [0023], para [0025], para [0028-0035] | 2-5, 8, 10-13, 17 and 19 |

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US 2006/0134035 A1 (Zheng et al) 22 June 2004 (22 06 2006) para [0018-0019], para [0029], para [0031], para [0035], para [0038], claims 15 and 33 | 2-5, 8, 11-13, 17, and 19 |

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D Further documents are listed in the continuation of Box C

Date of the actual completion of the international search
09 May 2008 (09 05 2008)

Date of mailing of the international search report
23 MAY 2008

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