DESCRIPTION

Title of Invention: COSMETIC SHEET AND METHOD FOR PRODUCING THE SAME, IMAGE-PROCESSING APPARATUS, AND IMAGE-PROCESSING METHOD

Technical Field

[0001]

The present disclosure relates to a cosmetic sheet and a method for producing the cosmetic sheet, an image-processing apparatus, and an image-processing method.

Background Art

[0002]

It has been proposed that a thin film to which an ink containing various coloring materials is applied is put on the human body to obscure a freckle, birthmark, or scar (hereinafter referred to as a "discolored region") on the skin (for example, Patent Literature 1). In a technique described in Patent Literature 1, an image of skin is taken to identify a discolored region. A color similar to the color of the periphery of the discolored region is printed on a thin film, which is put on the skin to obscure the discolored region.

Citation List

Patent Literature

[0003]

PTL 1: Japanese Unexamined Patent Application Publication No. 2015-43836

Summary

[0004]

In the technique described in Patent Literature 1, however, the color of the periphery of the discolored region is thickly printed to hide the color of the discolored region and to match the periphery. When a cosmetic sheet thus produced is put on the skin, however, the cosmetic sheet tends to arouse a feeling of thickness and contrarily make the discolored portion conspicuous.

[0005]

One aspect of the present disclosure provides cosmetic sheet to be put on a discolored portion of skin, comprising:

a thin film, one surface of which is to be put on the skin;
a complementary color layer formed by applying an ink with a color tone complementary to the color of the discolored portion to the other surface of the thin film;
a light scattering layer formed by applying an ink containing a reflective material to the complementary color layer and;
a coloring layer placed formed by applying a coloring material ink to the light scattering layer, wherein each of the inks for the complementary color layer, the light scattering layer, and the coloring layer further contains a higher alcohol having three to five carbon atoms, purified water, and an acrylic resin,
the acrylic resin contains at least one polymer selected from the group consisting of homopolymers of an acrylic monomer and copolymers of two or more acrylic monomers, and
wherein the complementary color layer has a basic color of blue and has a maximum at a wavelength in the range of 380 to 570 nm in its spectral reflectance curve. According to an aspect, there is method for producing a cosmetic sheet to be put on a discolored portion of skin, the method comprising:
a step of applying a complementary color layer ink containing a coloring material complementary to the color of the discolored portion to one surface of a thin film, the other surface of which is to be put on the skin, and drying the complementary color layer ink to form a complementary color layer;
a step of applying a light scattering layer ink containing a reflective material to the complementary color layer and drying the light scattering layer ink to form a light scattering layer; and
a step of applying a coloring layer ink containing a coloring material to the light scattering layer and drying the coloring layer ink to form a coloring layer,
wherein each of the inks for the complementary color layer, the light scattering layer, and the coloring layer further contains a higher alcohol having three to five carbon atoms, purified water, and an acrylic resin, and
the acrylic resin contains at least one polymer selected from the group consisting of homopolymers of an acrylic monomer and copolymers of two or more acrylic monomers.
In an embodiment, there is a cosmetic sheet that obscures a discolored portion of the skin and a method for producing the cosmetic

sheet. The present disclosure also provides an image-processing apparatus and an image-processing method for producing the sheet.

[0006]

A cosmetic sheet according to the present disclosure is a cosmetic sheet to be put on a discolored portion of skin, the cosmetic sheet including a thin film, one surface of which is to be put on the skin, a complementary color layer placed on the other surface of the thin film and having a color tone complementary to the color of the discolored portion, a light scattering layer placed on the complementary color layer and containing a reflective material, and a coloring layer placed on the light scattering layer and containing a coloring material.

[0007]

A cosmetic sheet according to one embodimentof the present disclosure put on the skin can obscure a discolored portion of the skin with lower feelings of thickness.

Brief Description of Drawings

[0008]

[Fig. 1A] Fig. 1A is an image of a known cosmetic sheet put on the arm.

[Fig. 1B] Fig. 1B is an image of a cosmetic sheet according to the present disclosure put on the arm.

[Fig. 2] Fig. 2 is a spectral reflectance curve of a typical discolored region (reddish freckle), a spectral reflectance curve of a complementary color layer placed on the discolored region, a spectral reflectance curve of a laminate of a light scattering layer and a coloring layer, and a spectral reflectance curve of a skin model.

[Fig. 3A] Fig. 3A is an explanatory view of the reflection of light when no cosmetic sheet is put on.

[Fig. 3B] Fig. 3B is an explanatory view of the reflection of light when a cosmetic sheet is put on.

[Fig. 4A] Fig. 4A is a schematic view of another cosmetic sheet.

[Fig. 4B] Fig. 4B is a schematic view of still another cosmetic sheet.

[Fig. 5] Fig. 5 is a schematic explanatory view of a makeup support system.

[Fig. 6] Fig. 6 is a block diagram of a configuration example of an image-processing apparatus.

[Fig. 7] Fig. 7 is a constitution example of a complementary color layer

Claims

1. A cosmetic sheet to be put on a discolored portion of skin, comprising:
a thin film, one surface of which is to be put on the skin;
a complementary color layer formed by applying an ink with a color tone complementary to the color of the discolored portion to the other surface of the thin film;
a light scattering layer formed by applying an ink containing a reflective material to the complementary color layer and;
a coloring layer placed formed by applying a coloring material ink to the light scattering layer, wherein each of the inks for the complementary color layer, the light scattering layer, and the coloring layer further contains a higher alcohol having three to five carbon atoms, purified water, and an acrylic resin,
the acrylic resin contains at least one polymer selected from the group consisting of homopolymers of an acrylic monomer and copolymers of two or more acrylic monomers, and
wherein the complementary color layer has a basic color of blue and has a maximum at a wavelength in the range of 380 to 570 nm in its spectral reflectance curve.

2. The cosmetic sheet according to Claim 1, wherein the light scattering layer has a thickness in the range of 0.1 to 10 when the complementary color layer has a thickness of 1.

3. The cosmetic sheet according to Claim 1, wherein the complementary color layer also has skin color.

4. The cosmetic sheet according to Claim 3, wherein the complementary color layer has a color tone of peach orange, purple, green, or pink.

5. The cosmetic sheet according to Claim 1, wherein the complementary color layer has different shades of color in a thickness direction.

6. A method for producing a cosmetic sheet to be put on a discolored portion of skin, the method comprising:
a step of applying a complementary color layer ink containing a coloring material complementary to the color of the discolored portion to one surface of a thin film, the other surface of which is to be put on the skin, and drying the complementary color layer ink to form a complementary color layer;

a step of applying a light scattering layer ink containing a reflective material to the complementary color layer and drying the light scattering layer ink to form a light scattering layer; and
a step of applying a coloring layer ink containing a coloring material to the light scattering layer and drying the coloring layer ink to form a coloring layer,
wherein each of the inks for the complementary color layer, the light scattering layer, and the coloring layer further contains a higher alcohol having three to five carbon atoms, purified water, and an acrylic resin, and
the acrylic resin contains at least one polymer selected from the group consisting of homopolymers of an acrylic monomer and copolymers of two or more acrylic monomers.

7. The method for producing a cosmetic sheet according to Claim 7, wherein the light scattering layer has a thickness in the range of 0.1 to 10 when the complementary color layer has a thickness of 1.