

【DESCRIPTION】

【Invention Title】

MASK SHEET AND PREPARATION METHOD THEREOF

【Technical Field】

This application claims priority to and the benefits of Korean Patent Application No. 10-2017-0159780, filed with the Korean Intellectual Property Office on November 28, 2017, and Korean Patent Application No. 10-2018-0137123, filed with the Korean Intellectual Property Office on November 9, 2018, the entire contents of which are incorporated herein by reference.

The present invention relates to a mask sheet with an excellent skin care effect while enhancing user convenience.

【Background Art】

A mask pack is a skin care product that is used by applying to the skin and leaving it for a certain period of time and then removing it, and the mask pack is classified into various types according to its formulation and a method of use.

Among them, a wash-off type mask pack is a product that is rinsed out with water after about 15 min to 20 min after application to the skin. In this wash-off type mask pack, cosmetically effective ingredients are not sufficiently absorbed or delivered to the skin within 20 minutes or less, so that the skin care effect is insufficient and the users who have to wash

their face are inconvenient.

Thus, research has been conducted to find ways to increase user convenience to increase the sustainability of the skin care effect by reducing inconvenience to wash face after a certain period of time.

Specifically, Korean Patent No.10-0525905 suggests a pack cosmetic composition characterized by comprising: 0.5 to 30 parts by weight of clay mineral containing bentonite and kaolin at a ratio of 1:3 to 1:10 and 0.5 to 30 parts by weight of titanium dioxide and photochromic inorganic pigment at a ratio of 1:10 to 1:15, and discloses that the user can visually confirm the pack removal time according to the color change of the film containing the pack cosmetic composition depending on the light, thereby maximizing the convenience of use. Further, Korean Patent No.10-1762902 relates to a soluble type fibrous sheet for skin-contacting with optimized dispersibility of skin and usage using the same, and discloses a soluble type cosmetic sheet having high delivery rate and absorption rate of skin useful ingredients to the skin.

However, it is very limited in the skin case method because it cannot show the skin care effect when the mask pack is applied to the skin and then used in a high humidity environment or during shower or bath.

On the other hand, a mask sheet is a product in which a cosmetic solution containing a moisturizer, a whitening agent,

an anti-wrinkle agent and other functional cosmetic ingredients is impregnated in a sheet type substrate, and it is used by applying the mask sheet to the user's skin for a certain period of time and then removing it. The mask sheet is one of the most common forms of mask pack because it has excellent portability and ease of use. Therefore, research and development has been continuously carried out to meet various needs of consumers.

Most of the currently available mask sheets are in the form that a substrate such as a non-woven fabric is impregnated with a cosmetic composition, and is manufactured by inserting the folded substrate into a packaging bag, injecting the content and then sealing the bag. Accordingly, as the content to be injected, lotion or serum having low viscosity and excellent flowability is used so as to be easily impregnated into the substrate. On the other hand, since a high-viscosity formulation such as cream or gel has low flowability, it is difficult to be impregnated into the substrate in the above-mentioned manner. Accordingly, it is limited to be used as the content.

Accordingly, it is required to develop a new mask sheet with excellent skin care effect because it can be used in a high humidity environment, thereby increasing user convenience, skin adhesion is excellent even if the mask sheet is wet with moisture or water, and a high viscosity formulation can be used as the content.

Further, it is required to develop a skin care method that

does not have to measure the time to remove the mask sheet separately because the mask sheet is applied to the skin before shower or bath and then removed after shower or bath, and can give the moisturizing and exfoliating effect to the skin while taking a shower or bath.

[Prior Art Document]

(Patent Document 1)

Korean Patent No. 10-0525905, "Photochromic pack cosmetic composition"

(Patent Document 2)

Korean Patent No. 10-1762902, "Soluble type fibrous sheet for skin-contacting with optimized dispersibility of skin and usage using the same"

【Disclosure】

【Technical Problem】

Accordingly, the present inventors have completed the present invention by studying a mask sheet having increasing user convenience because it can be used in high humidity environment or during shower or bath, and having excellent skin care effect because it can hold contents of high viscosity formulation.

Accordingly, an object of the present invention is to

provide a mask sheet which enhances user convenience and has high skin care effect.

Further, another object of the present invention is to provide a preparation method of the mask sheet.

Further, further another object of the present invention is to provide a skin care method using the mask sheet.

【Technical Solution】

In order to accomplish the objects described above, provided is a mask sheet comprising: a base layer impregnated with a wash-off type cosmetic composition; and a blocking layer, which is laminated on one side of the base layer to prevent external water droplets from penetrating into the base layer.

The base layer may be a non-woven fabric, all-cotton fabric, woven fabric, paper, foam or sponge.

Material of the base layer may be at least one selected from the group consisting of viscose rayon, modal, lyocell, tencel, cupra, polyester, polypropylene, polyethylene terephthalate, nylon, cotton, linen, pulp and cellulose.

The water content of the base layer may be 100% to 200%.

The thickness of the base layer may be 20 μm to 2 mm.

The thickness of the blocking layer may be 10 μm to 500 μm .

The blocking layer may be at least one film selected from the group consisting of fluorine-based resin, silicone-based

resin, urethane-based resin, teflon-based resin, polyacrylonitrile (PAN), polyethylene oxide (PEO), polyethylene terephthalate (PET), polystyrene (PS), polyvinylidene fluoride (PVDF), polyurethane (PU), polyvinyl propylene (PVP), polyvinyl alcohol (PVA), Nylon, polyether sulfone (PES), polyether imide (PEI), poly(styrene-butadiene-styrene) (SBS), carboxymethylcellulose (CMC), polyethylene (PE), ethylene vinyl acetate resin and styrene-isoprene-styrene block copolymer.

The average pore diameter of the blocking layer may be 0.4 nm to 100 μ m.

The lamination with two or more layers constituting the mask sheet may be made by at least one adhesive selected from the group consisting of an acrylic adhesive, a rubber-type adhesive, a polyurethane adhesive, a polyester adhesive, a silicone adhesive and a hot-melt adhesive.

The viscosity of the wash-off type cosmetic composition may be 5,000 cps to 200,000 cps.

The wash-off type cosmetic composition may comprise at least one original ingredient selected from the group consisting of plants, tea leaves, petals, sugar and scrubbing agent.

At this time, the original ingredient may be contained in an amount of 0.001 wt% to 50 wt% based on the total wash-off type cosmetic composition.

The mask sheet may further comprise a release film laminated on the outer surface of the base layer impregnated

with the wash-off type cosmetic composition.

Further, the present invention provides a preparation method of a mask sheet comprising the following steps of:

S1) preparing a base layer;

S2) laminating a blocking layer on one side of the base layer; and

S3) spreading a wash-off type cosmetic composition on the other side of the base layer.

Further, the wash-off type cosmetic composition may comprise at least one original ingredient selected from the group consisting of plants, tea leaves, petals, sugar and scrubbing agent, and the original ingredient is contained in an amount of 0.001 wt% to 50 wt% based on the total wash-off type cosmetic composition.

The method may further comprise a step of laminating a release film on the base layer so that one side of the release film coated with the wash-off type cosmetic composition and one side of the base layer face each other, between the S2) step and the S3) step.

The method may further comprise a step of folding the mask sheet so that the wash-off type cosmetic composition is not exposed to the outside, after the S3) step.

Further, the present invention provides a skin care method using the mask sheet, which comprises the following steps of:

applying the mask sheet to the skin;

removing the mask sheet after shower or bath; and
rinsing the skin to which the mask sheet was applied with
water.

【Advantageous Effect】

The mask sheet of the present invention can be used in a high humidity environment, thereby enhancing the user convenience, and it is convenient to use and hygienic because its contents do not get in the hands during handling. The mask sheet is excellent in skin adhesion and feeling even when moisture or water is put thereon. In addition, the mask sheet may be impregnated with a high-viscosity formulation such as cream or gel and can be used as a high moisture and high nutritional pack.

【Description of Drawings】

Fig. 1 is a sectional view of the mask sheet according to one embodiment of the present invention.

Fig. 2 is a sectional view of the mask sheet according to another embodiment of the present invention.

[Description of Symbols]

10: release film

20: mask sheet

21: base layer

22: blocking layer

【Best Mode】

Hereinafter, preferred embodiments of the present invention will be described in detail with reference to the accompanying drawings. Such drawings are one embodiment for describing the present invention, and may be implemented in various different forms, and are not limited to the present specification. Herein, in the drawings, parts not relevant to the descriptions are not included, and like reference numerals designate like elements throughout the specification. In addition, sizes and relative sizes of the constituents shown in the drawings are unrelated to actual scales, and may be reduced or exaggerated for clarity of the descriptions.

Mask sheet

The present invention provides a mask sheet comprising: a base layer impregnated with a wash-off type cosmetic composition; and a blocking layer, which is laminated on one side of the base layer to prevent external water droplets from penetrating into the base layer.

Fig. 1 shows a sectional view of the mask sheet according to one embodiment of the present invention. As shown in Fig. 1, the mask sheet of the present invention comprises a base layer 21 and a blocking layer 22. At this time, wash-off type cosmetic

composition is impregnated into the base layer 21 and does not come out of the blocking layer 22.

The mask sheet of the present invention is impregnated with the wash-off type cosmetic composition only on one side, and the mask sheet may be folded so that the wash-off type cosmetic composition is not exposed to the outside. In this way, it is easy to use because the contents do not get in the hands.

Further, the mask sheet has a good adhesion to the skin and pleasant feeling even though it contains the blocking layer. Further, unlike conventional prototypes, the mask sheet of the present invention impregnated with a high-viscosity formulation such as cream or gel, and therefore, it can provide high moisturizing and nutritional effects.

In the present invention, as shown in Fig. 2, the mask sheet may further comprise a release film 10 laminated on the outer surface of the base layer 21, and the impregnated wash-off type cosmetic composition may not be gotten on the user's hands and may not evaporate out by inclusion of the release film.

Herein, the release film 10 is to protect the skin contact surface of the mask sheet 20 before adhering to the skin and to prevent contamination and evaporation of the cosmetic composition impregnated on the base layer 21. The release film 10 is peeled from the mask sheet and the base layer 21 of the mask sheet 20 with which the release film 10 is in contact becomes the skin contact surface.

Material of the release film 10 is not particularly limited and any material known to be usable as a release film in the art can be used without limitation. In particular, it may be PET film or embossing-processed PET film, PP film and the like.

In the present invention, the mask sheet 20 comprises the base layer 21 impregnated with the wash-off type cosmetic composition and used as the surface to be attached to the skin.

The base layer 21 has a plurality of pores so that the wash-off type cosmetic composition can be impregnated, and the shape and the material of the base layer 21 are not particularly limited as long as they are excellent in liquid retention.

For example, the base layer 21 may be a non-woven fabric, all-cotton fabric, woven fabric, paper, foam or sponge, and the material thereof may be at least one selected from the group consisting of viscose rayon, modal, lyocell, tencel, cupra, polyester, polypropylene (PE), polypropylene (PP), polyethylene terephthalate (PET), polyvinyl alcohol (PVA), polyvinyl chloride (PVC), polyacrylonitrile (PAN), polyamide, polyurethane (PU), polylactic acid (PLA), nylon, cotton, linen, pulp and cellulose, but not limited thereto. Preferably, the base layer may be viscose rayon non-woven fabric, tencel non-woven fabric, cupra non-woven fabric or cotton non-woven fabric.

The mass per unit area of the base layer 21 is not particularly limited, but may be 10 gsm (g/m^2) to 150 gsm (g/m^2).

Further, the water content of the base layer 21 may be in a range of 100% to 200 % based on the weight of the base layer itself, but not limited thereto.

In the present invention, the thickness of the base layer 21 is not particularly limited. The thickness can be adjusted as needed, and preferably it may be in a range of 20 μm to 2 mm. If the thickness of the base layer is less than 20 μm , there may be handling problems that the spreadability of the mask sheet is reduced and the mask sheet is torn easily, and if the thickness thereof is over 2 mm, there may be a problem that adhesion to the skin is deteriorated because the mask sheet becomes too thick. Accordingly, the thickness is appropriately adjusted within the above range.

In the present invention, the blocking layer 22 is laminated on one side of the base layer 21, but the wash-off type cosmetic composition impregnated in the base layer 21 is not impregnated or absorbed into the blocking layer 22. Further, the blocking layer 22 has a waterproof function that prevents external foreign matter and water droplets from penetrating. Thus, the blocking layer 22 can prevent mixing of the wash-off type cosmetic composition impregnated in the base layer 21 and the external water droplet.

The blocking layer 22 may be manufactured by a laminating method. Herein, the laminating method is a method of bonding a

film to a fiber or a substrate. The laminating method is to adhere a thin film to a highly flexible fiber or substrate, so that it does not deteriorate the flexibility of the substrate to be adhered, and can have a soft touch and a feeling of adhesion.

Further, the blocking layer 22 can be prepared by laminating two or more kinds of microporous films to the base layer 21 several times. At this time, materials of the two or more kinds of microporous films may be different from each other or may be the same, and may be additionally given different functions by different micropore sizes.

In order not to deteriorate the inherent flexibility of the base layer 21, it is preferred to form the blocking layer 22 in a thin film form. Thus, the thickness of the blocking layer 22 may be 10 μm to 500 μm .

If the thickness of the blocking layer is less than 10 μm , there may be handling problems that the spreadability of the mask sheet is reduced and the mask sheet is torn easily, and if the thickness is over 500 μm , there may be problems that it is separated from the base layer and adhesion to the skin and flexibility are deteriorated because the mask sheet becomes too thick. Accordingly, the thickness is appropriately adjusted within the above range.

The blocking layer 22 has pores smaller than the diameter of the water vapor. Accordingly, moisture in the form of water vapor such as sweat can pass through the pores, but water

droplets cannot pass through the pores.

The average pore diameter of the blocking layer may be 0.4 nm to 100 μm . If the pore diameter is less than 0.4 nm, stuffiness to the skin may be increased and may show unpleasant feeling, and if the pore diameter is over 100 μm , external foreign matter or water droplets may penetrate into the mask sheet. More preferably, it may be 10 nm to 35 μm , but not limited thereto.

Material of the blocking layer 22 may be synthetic polymer, natural polymer or a combination thereof.

Specifically, the material of the blocking layer may be at least one selected from the group consisting of fluorine-based resin, silicone-based resin, polyacrylonitrile (PAN), polyethylene oxide (PEO), polyethylene terephthalate (PET), polystyrene (PS), polyvinylidene fluoride (PVDF), polyurethane (PU), polyvinyl propylene (PVP), polyvinyl alcohol (PVA), nylon, polyether sulfone (PES), polyether imide (PEI), poly(styrene-butadiene-styrene) (SBS), carboxymethylcellulose (CMC), polyethylene (PE), ethylene vinyl acetate resin and styrene-isoprene-styrene block copolymer, and preferably, it may be at least one selected from silicone-based resin, polyurethane and polyacrylonitrile.

In the present invention, in order to prevent the cosmetic composition from releasing and to exhibit a blocking effect, the blocking layer 22 may further have oil repellency. Namely, the

blocking layer may be made of waterproof and oil-repellent materials, or a water-repellent material and an oil-repellent material may be spread on a substrate which does not contain a water-repellent ingredient and an oil-repellent ingredient or has weak water-repellency and oil-repellency.

In order to serve as a shielding film without deteriorating the flexibility of the base layer 21, it is preferred to form the blocking layer 22 of the present invention in a thin film form. Specifically, the mass per unit area of the blocking layer may be 1 gsm to 50 gsm and more preferably 1 gsm to 20 gsm. If the mass per unit area of the blocking layer is less than 1 gsm, it may be difficult to prevent penetration or evaporation of the cosmetic composition impregnated into the base layer, and if the mass per unit area is over 50 gsm, feeling of adhesion may be deteriorated when applied to the skin due to the deteriorated flexibility of the base layer and stiffness may be increased due to the deteriorated air permeability.

Such blocking layer 22 exhibits excellent adhesion at the time of bonding to the base layer 21 and is manufactured to have high flexibility so as not to hinder adhesion to the skin. Further, the wash-off type cosmetic composition can be used in a high humidity environment without evaporating the wash-off type cosmetic composition contained in the mask sheet because the wash-off type cosmetic composition does not leak out and external water droplets do not pass through. Accordingly, user

convenience can be increased, and adhesion to the skin can be maintained even when the mask sheet is smeared with external foreign matter and water droplets.

Further, since the contents of the mask sheet comprising a blocking layer do not get in the hands during handling, it is easy to use and hygienic.

In one embodiment of the present invention, lamination of two or more layers of the layers constituting the mask sheet may be performed by an adhesive, thermal fusion, ultrasonic waves or stitching.

Herein, the lamination may be performed by at least one adhesive selected from the group consisting of an acrylic adhesive, a rubber-type adhesive, a polyurethane adhesive, a polyester adhesive, a silicone adhesive and a hot-melt adhesive. At this time, in order to prevent deteriorating of air permeability of the mask sheet caused by the adhesive, the adhesion may be conducted by point fusion.

Preferably, the adhesive may be a hot-melt adhesive. The hot-melt adhesive is an adhesive that does not use water or solvent at all, but used for adhesion in a state in which the nonvolatile, nonflammable or thermoplastic resin which is solid at room temperature is melted by heat. The hot-melt adhesive has advantages that it is environment-friendly because it does not contain solvents, and it is less irritating to the skin.

The kind of the hot-melt adhesive is not particularly limited, and adhesives conventionally used in the art can be used without limitation. Specifically, the hot-melt adhesive may be a resin such as ethylene vinyl acetate copolymer (EVA), polyethylene (PE), polypropylene (PP), styrene-isoprene-styrene block copolymer, polyester and polyamide, polyurethane as a basic resin, and may further contain wax (e.g., paraffin wax and polyethylene wax), a tackifier resin (e.g., rosin-based resin, terpene resin, coumarone-indene resin and petroleum resin), a plasticizer (e.g., paraffin and aromatic oil), a filler (e.g., calcium carbonate and clay), an antioxidant (e.g., phenols and aromatic amines) and the like.

In the present invention, the amount of the adhesive to be used is not particularly limited and may be appropriately adjusted as needed. Preferably, it may be in the range of 0.1 gsm to 10 gsm, for example. When the above range is satisfied, it is preferable because it is possible to ensure appropriate adhesiveness, and it is possible to avoid the problem that the air permeability of the mask sheet is lowered due to excessive application of the adhesive.

The formulation of the wash-off type cosmetic composition impregnated on the mask sheet of the present invention 20 is not particularly limited as long as it can be impregnated in the base layer 21, but it is preferable to use a high viscosity

formulation having a viscosity of 5,000 cps to 200,000 cps.

The cosmetic composition of the above-mentioned high-viscosity formulation is superior in moisture containing ability as compared with a highly flowable formulation such as milky lotion and toner, and also can increase the content of the oil ingredient and the effective ingredient. Therefore, it has advantages that it is possible to supply nutrients at a high concentration to the skin, and it is possible to maximize the moisturizing effect and the regenerating effect. Further, when the high viscosity formulation is applied, the content is not flowed down from the mask sheet at the time of distribution or use of the mask sheet, so the convenience of use is also excellent.

At this time, viscosity measurements of the wash-off type cosmetic compositions can be conducted by a viscometer. Specifically, a sample 100 g is placed in a container and kept in a thermostatic chamber of 30°C for 12 hrs or longer. Then, the sample is loaded in BROOKFIELD viscometer (BROOKFIELD RVDV-II+ pro viscometer), which is set to spindle number of 64 and spindle speed of 12 rpm, and the viscometer is run for 2 min to measure the viscosity of a cosmetic composition with the measured viscosity value.

Ingredients of the wash-off type cosmetic composition are not particularly limited in the present invention, and the ingredients may be a moisturizing ingredient such as fatty

alcohol, wax, oil and glycerin, a skin effective ingredient having effect such as anti-wrinkle, skin whitening, UV blocking, anti-aging, hydration and elasticity increasing, natural extracts and the like.

For example, the skin effective ingredient may be at least one selected from the group consisting of plant, petals, tea leaves, retinol, retinyl palmitate, retinyl acetate, retinoic acid, coenzyme Q10, elastin, collagen, hyaluronic acid, ceramide, caffeine, chitosan, ascorbic acid, ascorbyl glucoside, alpha bisabolol, tocopherol, tocopherol acetate, arbutin, niacinamide, adenosine, retinol acetate, vitamin A, D, E, and natural extracts.

The natural extracts may be at least one selected from the group consisting of rose, aloe, green tea, ginseng, red ginseng, pearl, wood vinegar, pine needles, ginkgo leaf, propolis, mulberry leaves, silkworm, snail slime, kakadu plum, camu-camu, assai palm, squalane, caviar, broccoli, blueberry, witch hazel, acerola, chlorella, mangosteen, guava, cornelian cherry, carrot, caffeine, hamamelis, spirulina, salmon roe, Ecklonia Cava, giant kelp, tangle, Portulaca, green laver, agar, mulberry root, raspberry, wild berry, hizikia fusiforme, gulf weed, edelweiss, chamomile, lavender, peppermint, eucalyptus, lemon balm, oregano, tea tree, scutellaria, Houttuynia cordata, sea buckthorn and yuja.

The wash-off type cosmetic composition refers to contain an

ingredient that can give the skin care effect to the skin in a short time, but should be performed a step of removing the cosmetic composition. Such wash-off type cosmetic composition can contain a high content of plant, petals, tea leaves, original ingredient and solid itself, so that it is possible to carry any substance that exhibits the skin care effect.

In one embodiment of the present invention, the mask sheet may be impregnated with the wash-off type cosmetic composition.

At this time, the wash-off type cosmetic composition may comprise at least one original ingredient selected from the group consisting of plants, tea leaves, petals, sugar, solids and scrubbing agent, and the original ingredient is contained in an amount of 0.001 wt% to 50 wt% based on the total cosmetic composition. If the amount of the original ingredient is less than 0.001 wt% based on the total cosmetic composition, the efficacy as a skin external preparation is very poor, and if the amount thereof is over 50 wt%, there is a concern about skin safety and it is difficult to blend with other substances.

Herein, the solids may be, for example, walnut shell powder, seed powder, grain powder, coffee powder, yogurt protein, various vitamins, vegetable powder and the like.

On the other hand, the scrubbing agent can be divided into a disintegrating scrubbing agent which is disintegrated or dissolved into smaller particles in the medium and a non-disintegrating scrubbing agent which is swollen but not

disintegrated in the medium. At this time, the disintegrating scrubbing agent may be, for example, inorganic salts such as chlorides, carbonates, bicarbonates, sulfates and phosphates of alkali metals or alkaline earth metals; sugar; or sugar alcohols such as erythritol (4-carbon), traitol, arabitol (5-carbon), xylitol, ribitol, mannitol (6-carbon), sorbitol, galactitol, iditol, inositol, bolemitol (7-carbon), or sugar alcohols of diose; and other crystalline natural materials. The non-disintegrating scrubbing agent may be artificial scrubbing agent such as polyethylene, natural scrubbing agent such as nut shell powder and fruit seed powder, inorganic scrubbing agent such as carbon black, graphite, metal oxide (e.g., silica, titania, zirconia, zinc oxide or these complex oxide) and rock powder (e.g., garnet powder).

For example, the wash-off type cosmetic composition comprises gommage type cosmetic composition as a scrubbing agent.

The mask sheet according to the present invention has stronger adhesion compared with the conventional wash-off type mask packs by supporting the wash-off type cosmetic composition. Accordingly, the mask sheet can improve the delivery of the effective ingredients to the skin, can give the skin excellent skin care effect in a short time, and can improve the user's convenience by attaching the mask sheet and performing other tasks at the same time.

In one embodiment of the present invention, the cosmetic

composition may contain at least one selected from the group consisting of a sequestering agent, a moisturizer, a water-soluble thickener, an emulsifying stabilizer, a pH adjusting agent, a surfactant, fragrance and purified water.

In addition, the cosmetic composition may further contain preservatives, fatty acids, antioxidants, pigments, lipids and the like widely used in the art as additives.

As mentioned above, the mask sheet of the present invention including a base layer 21 impregnated with a cosmetic composition and a blocking layer 22 can be used in a high humidity environment, thereby enhancing user convenience, having excellent adhesion to the skin and feeling even if the mask sheet is wet with moisture or water. Further, the mask sheet of the present invention uses cream or gel formulation having high viscosity as a cosmetic composition impregnated into the mask sheet, thereby showing a high moisturizing and nutritive effect compared with a mask sheet impregnated with the conventional low viscosity formulation.

Preparation method of mask sheet

A method for preparing the mask sheet of the present invention is not particularly limited, but for example, the mask sheet may be prepared by the method comprising the following steps of:

S1) preparing a base layer;

S2) laminating a blocking layer on one side of the base layer; and

S3) spreading a wash-off type cosmetic composition on the other side of the base layer.

When such method is selected, it is easy to use in a high humidity environment, for example, during shower or bath, and it is easy to impregnate a mask sheet with a high viscosity formulation such as cream or gel. Further, since the cosmetic composition and external substances are not smeared on the part other than the base layer which is the skin contact surface, it is advantageous to manufacture a mask sheet which is easy to handle.

Hereinafter, the preparation method according to one embodiment of the present invention will be described in detail step by step.

In the S1) step, the base layer is prepared.

At this time, material and shape of the base layer are as described above, and the base layer may be a commercially available material or may be directly manufactured for use.

In the S2) step, the blocking layer is laminated on one side of the base layer.

In the present invention, the laminating process may be to adhere a thin film to the base layer as described above. Further, the laminating process can be performed several times using two or more microporous films.

The laminating process may be a dry-type laminating process or a wet-type laminating process, preferably a wet-type laminating process, but not limited thereto. Herein, the dry-type laminating process is to adhere a film to a fiber material by heat, and the wet-type laminating process is to adhere a film to a fiber material by an adhesive and then apply pressure to compress it.

Material of the blocking layer may be a synthetic polymer, a natural polymer or a combination thereof as described above, and it is not particularly limited if the material is available to the laminating process.

The conditions of the laminating process for forming the blocking layer may be generally known methods and are not particularly limited. For example, the laminating may be conducted at the set temperature of 10°C to 150°C and the pressure of 1 kgf / cm² to 10 kgf / cm².

The blocking layer can be formed by bonding the film onto the base layer or by laminating the film on one side of the base layer. At this time, in order to facilitate the bonding of the blocking layer and the base layer, before bonding the blocking layer, the above-mentioned adhesive may be applied on the base layer first and then the blocking layer may be formed thereon.

The S3) step is a step of spreading the wash-off type cosmetic composition on the other side of the base layer. The spreading method may be a method commonly used in the art, and

it is not particularly limited as long as a high viscosity wash-off type cosmetic composition having poor flowability on the base layer is sufficiently impregnated in the base layer.

In one embodiment of the present invention, the method may further comprise a step of laminating a release film on the base layer so that one side of the release film coated with the wash-off type cosmetic composition and one side of the base layer face each other, between the S2) step and the S3) step. By further comprising the step of laminating the release film on the base layer, a high viscosity wash-off type cosmetic composition can be uniformly coated on the release film before impregnating the composition into the base layer.

At this time, the coating method is not particularly limited in the present invention, and the method may be, for example, comma coating, reverse coating, slot die coating, spray coating, doctor blade and the like.

Further, the coating thickness of the wash-off type cosmetic composition is not particularly limited, but it may preferably be in the range of 100 μm to 5,000 μm , more preferably 200 μm to 1000 μm .

Then, in the S3) step, the base layer prepared in the S1) step can be placed on the wash-off type cosmetic composition coated on the release film to coat the cosmetic composition on the base layer.

When such method is used, a high viscosity wash-off type

cosmetic composition with low flowability can be sufficiently spread on the base layer. Further, the method is preferable because the cosmetic composition can be selectively spread only to the skin attachment surface.

In one embodiment of the present invention, the method may further comprise a step of folding the mask sheet so that the wash-off type cosmetic composition is not exposed to the outside, after the S3) step. Preferably, one side of the base layer impregnated with cosmetics is partially overlaid, but the mask sheet can be opened without getting any cosmetic composition on the hands. For example, it may be folded along the contours of the forehead and nose and folded into half the shape of the face.

By further comprising the step of folding the mask sheet after the S3) step, the wash-off type cosmetic composition impregnated in the base layer is not evaporated to the outside, and there is no cosmetic composition on the surface, so that the cosmetic composition may not get on the hand.

On the other hand, when the wash-off type cosmetic composition immediately after preparation having a temperature of 30°C to 80°C is used in step S3), there is an advantage that the impregnation of the cosmetic composition can be performed more smoothly.

The mask sheet of the present invention has a structure in which a base layer impregnated with a wash-off type cosmetic

composition and a blocking layer are stacked in this order through the above-described preparation method. Accordingly, it is easy to use and hygienic because the base layer does not touch the hand directly when handling mask sheet. Further, when the preparation method as in the present invention is used, a formulation such as gel having a high viscosity can be carried on a mask sheet, so that it is possible to manufacture a high nutrition and high moisturizing pack.

The skin care method using the mask sheet according to the present invention, which comprises a step of applying the mask sheet to the skin; a step of removing the mask sheet after shower or bath; and a step of rinsing the skin to which the mask sheet was applied with water, can give the skin care effect to the skin.

At this time, it is convenient that the user can perform other tasks while giving the skin care effect to the skin by removing the mask sheet after shower or bath without measuring the time to remove the mask sheet. Further, the present invention provides a convenient skin care method since a step of removing any remaining material on the skin after handling the mask sheet, or rinsing the skin with water to eliminate the stiffness of the skin can be carried out directly during shower or bath.

Hereinafter, the preferred embodiment of the present

invention will be described in detail based on examples. However, the embodiments of the present invention may be modified in various ways, and the scope of the present invention should not be interpreted as being limited to the examples. The embodiments of the present invention are provided just for explaining the present invention more perfectly to those having ordinary skill in the art.

Preparative Example 1: Preparation of wash-off type cosmetic composition

As a wash-off type cosmetic composition to be impregnated into a base layer of a mask sheet, gel having the composition shown in the following Table 1 was prepared.

【Table 1】

	Ingredient	Content (wt%)
1	Purified water	To 100
2	Disodium EDTA (EDTA-2Na)	0.05
3	Glycerin	5
4	Butylene glycol	5
5	Carbomer	0.2
6	Triethanolamine	0.13
7	Dried rose petals	5
8	Rose fragrance	0.05

<Preparation method>

1) The raw materials 1 to 5 are mixed while putting the

materials into a manufacturing container.

2) the ingredient 6 is added to the mixture of 1) while slowly stirring the mixture of 1) to make viscosity.

3) Ingredients 7 and 8 are added to the mixture of 2) and mixed while slowly stirring the mixture of 2).

The viscosity of the prepared gel was measured by the following viscometer and measuring method. As a result, the viscosity of the gel was 30,000 cps.

<Viscosity measuring method>

1) Viscometer: BROOKFIELD RVDV-II+ pro viscometer

2) Preparation of a sample for measuring viscosity: a sample to be measured 100 g is placed in a container and kept in a thermostatic chamber of 30°C for 12 hrs or longer.

3) Condition of viscometer: Spindle Number of 64, Spindle Speed of 12 rpm, measuring time of 2 min

4) The sample of 2) is loaded in the viscometer of 2), which was set to the condition of 3), and then the viscometer is run for 2 min to measure the viscosity.

Preparative Example 2: Preparation of gommage type cosmetic composition

As a gommage type cosmetic composition to be impregnated into a base layer of a mask sheet, gel having the composition shown in the following Table 2 was prepared. At this time, the

gommage type cosmetic composition refers to a cosmetic composition which has a method of use of applying the cosmetic composition to the skin to remove the waste of the skin and then scrubbing off the applied cosmetic composition like scrubbing the dead skin cells to remove the dead skin cells.

【Table 2】

	Ingredient	Content (wt%)
1	Purified water	To 100
2	Disodium EDTA (EDTA-2Na)	0.02
3	Butylene glycol	5
4	Glycerin	2
5	Cellulose	10
6	Fragrance	0.1

<Preparation method>

1) The raw materials 1 to 4 are mixed at room temperature while adding the materials.

2) The ingredient 5 is slowly added to the mixture of 1) while slowly stirring the mixture of 1) for sufficient dispersion.

3) The ingredient 6 is added to the mixture of 2) while slowly stirring the mixture of 2).

The viscosity of the prepared gel was measured by the same viscometer and measuring method of Preparative Example 1. As a

result, the viscosity of the gel was 28,300 cps.

Example 1: Preparation of mask sheet

A mask sheet was prepared as follows: Hot-melt polyurethane adhesive (Henkel, Purmelt®) 1 gsm was coated on all-cotton fabric (60 gsm), and then, for complementing the waterproof function, a hydrophobic polyurethane layer was laminated thereon by 3 gsm to form a blocking layer.

Then, the wash-off type cosmetic composition prepared in Preparative Example 1 was spread on the all-cotton fabric to prepare a mask sheet.

Example 2: Preparation of mask sheet

A mask sheet was prepared as follows: Hot-melt polyurethane adhesive (Henkel, Purmelt®) 1 gsm was coated on all-cotton fabric (60 gsm), and then, for complementing the waterproof function, a hydrophobic polyurethane layer was laminated thereon by 3 gsm to form a blocking layer.

Separately, the wash-off type cosmetic composition prepared in Preparative Example 1 was spread on a release film (PET film in thickness of 20 μm), and the cosmetic composition was uniformly coated thereon using a comma coater (Ikeda, Japan) to the thickness of 700 μm .

The prepared mask sheet was placed on the wash-off type cosmetic composition coated on the release film, and then the

wash-off type cosmetic composition was impregnated the all-cotton fabric by pressurizing thereof at a constant pressure to prepare a mask sheet.

Example 3: Preparation of mask sheet

A mask sheet was prepared as follows: Hot-melt polyurethane adhesive (Henkel, Purmelt®) 1 gsm was coated on all-cotton fabric (60 gsm), and then, for complementing the waterproof function, a hydrophobic polyurethane layer was laminated thereon by 3 gsm to form a blocking layer.

Then, the wash-off type cosmetic composition prepared in Preparative Example 1 was spread on the all-cotton fabric, and then the sheet was folded along the contours of the forehead and nose to prepare a mask sheet folded into half the shape of the face.

Example 4: Preparation of mask sheet

A mask sheet was prepared as follows: Hot-melt polyurethane adhesive (Henkel, Purmelt®) 1 gsm was coated on all-cotton fabric (60 gsm), and then, for complementing the waterproof function, a hydrophobic polyurethane layer was laminated thereon by 3 gsm to form a blocking layer.

Then, the gommage type cosmetic composition prepared in Preparative Example 2 was spread on the all-cotton fabric to prepare a mask sheet.

The diameter of the micropores formed in the blocking layer of the mask sheet thus prepared was measured, and it was confirmed that the average pore diameter was 22.04 μm . As a result, it was confirmed that the mask sheet according to the present invention including a blocking layer formed with micropores can reduce the stiffness of the skin when applying the mask sheet to the skin, and can prevent external foreign matters or water droplets from penetrating into the mask sheet.

The mask sheet thus prepared was easy to handle and hygienic because the wash-off type or gommage type cosmetic composition impregnated into the base layer did not released to the outside due to the blocking layer. Further, since a high viscosity gel was used as a wash-off type cosmetic composition, compared with the existing mask sheet, the mask sheet showed high moisturizing ability. Since the mask sheet can be used in a high humidity environment, its user convenience was enhanced, and showed excellent skin adhesion and feeling even if it was wet with moisture or water.

As shown in the following Table 3, in order to confirm the moisturizing effect and exfoliation effect, Comparative Examples were prepared.

【Table 3】

	Comparative Example 1	Comparative Example 2	Comparative Example 3	Comparative Example 4
Cosmetic Composition	5% Rose petals	Wash-off type cosmetic composition prepared in Preparative Example 1	Gommage type cosmetic composition prepared in Preparative Example 2	Gommage type cosmetic composition prepared in Preparative Example 2
Mask Sheet	-	Sheet made of all- cotton fabric	-	Sheet made of all- cotton fabric

Test Example 1: Moisturizing effect

In order to investigate the skin moisturizing effect of Comparative Examples and Example, a test material was applied to the inner surface of the forearm of 20 healthy adults in their twenties to thirties (7 males and 13 females).

The moisture content of the skin was measured three times with a corneometer CM825 (C+K GmbH, Germany) at the time point of before applying the test material, immediately after washing after leaving it for 30 min, 30 min after washing and 1 hr after washing, respectively. Then the average was calculated and the results are shown in the following Table 4. Corneometer is a device that shows the degree of moisture present in the epidermis of the skin by measuring and quantifying the electrical conductivity of the skin by moisture using a sensor.

【Table 4】

Electrical conductivity (Average $\pm$ Standard deviation, ACU)				
	Before spreading	Immediately after washing after 30 min leaving	30 min after washing	1 hr after washing
Comparative Example 1	26.73 $\pm$ 4.99	42.31 $\pm$ 5.37	31.33 $\pm$ 4.01	29.85 $\pm$ 3.90
Comparative Example 2	29.31 $\pm$ 4.70	53.77 $\pm$ 5.10	38.92 $\pm$ 4.87	34.46 $\pm$ 2.92
Example 1	28.80 $\pm$ 3.98	60.04 $\pm$ 4.49	50.82 $\pm$ 5.11	45.57 $\pm$ 4.05

As can be seen from Table 4, when Example 1 according to the present invention was used, the skin moisture content tended to increase not only immediately after washing but also at 30 min after washing and 1 hr after washing, compared with Comparative Examples 1 and 2. Thus, it can be found that the mask sheet according to the present invention effectively preserves the moisture of the skin after use and therefore has excellent skin moisturizing ability.

Test Example 2: Effect of reducing amount of dead skin cells

In order to investigate the effect of reducing amount of dead skin cells of Comparative Examples and Example, a test

material was applied to the inner surface of the forearm of 20 healthy adults in their twenties to thirties (7 males and 13 females).

To the non-applied region and the regions applied with Comparative Examples 1 and 2, and Example 1, respectively, the dead skin cells were collected using a black tape (D-squame), and then the area of the dead skin cells attached to the black tape (pixel number) was determined using Charmview scope (Moritex, Japan). The dead skin cell reduction rate to the non-applied region was calculated and the results are shown in Table 5.

【Table 5】

	Comparative Example 1	Comparative Example 2	Example 1
Reduction rate of area of dead skin cells (%)	12.22	19.35	26.72

As can be seen from Table 5, when Example 1 according to the present invention was used, the area of the dead skin cells collected by the black tape tended to decrease, compared with Comparative Examples 1 and 2. Accordingly, it can be found that the skin care kit according to the present invention effectively reduces the amount of the dead skin cells of the skin surface after use and therefore has excellent skin smoothening effect.

Test Example 3: Evaluation of use convenience and satisfaction

In order to compare use convenience and satisfaction when using Comparative Examples and Example, 30 healthy females in their twenties to thirties were asked to use a test material directly to their faces.

To Example 4, Comparative Example 3 and Comparative Example 4, the subjects used the test material according to the following method of use, and evaluated for use convenience, ease of removing the dead skin cells and skin softness after use according to the following criteria. The average values of the results are shown in the following Table 6.

<Method of use>

Example 4, Comparative Example 3 and Comparative Example 4 were attached to or spread on the skin, respectively, and after 5 min, scrubbed by hands like scrubbing the dead skin cells to remove the dead skin cells.

<Evaluation criteria for use convenience >

Score 1 : Very inconvenient to use

Score 3 : Somewhat inconvenient to use

Score 5 : Normal

Score 7 : Somewhat convenient to use

Score 9 : Very convenient to use

< Evaluation criteria for ease of removing dead skin cell >

Score 1 : Very difficult to remove dead skin cells

Score 3 : Difficult to remove dead skin cells

Score 5 : Normal

Score 7 : Easy to remove dead skin cells

Score 9 : Very easy to remove dead skin cells

<Evaluation criteria for skin softness after use >

Score 1 : Similar to the skin before use

Score 3 : Somewhat softer than before use

Score 5 : Softer than before use

Score 7 : Softer and smoother than before use

Score 9 : Much softer and smoother than before use, it feels like baby skin

【Table 6】

	Example 4	Comparative Example 3	Comparative Example 4
Use convenience	7.40	4.07	2.93
Ease of removing dead skin cells	6.47	6.53	6.13
Skin	7.60	5.47	4.07

softness after use			
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As can be seen from Table 6, when Example 4 according to the present invention was used, it showed almost similar ease of removing the dead skin cells to Comparative Examples 3 and 4. On the other hand, in the use convenience and the skin softness satisfaction after use, Example 4 showed a relatively higher score than Comparative Examples 3 and 4. Thus, it can be found that the mask sheet according to the present invention improves user satisfaction by improving use convenience while maintaining ease of removing the dead skin cells compared to using the common cosmetic composition for removing dead skin cells, and it is more effective for skin softness after use by hydrating the skin more effectively during use.

Test Example 4: Evaluation of adhesion

In order to evaluate adhesion of Comparative Example and Example, Example 1 and Comparative Example 2 were applied to the face of 20 adult women, respectively. Then the skin adhesion was evaluated according to the following evaluation criteria for adhesion, and the average scores were shown in the following Table 7.

<Evaluation criteria for adhesion>

Score 1 : Very bad

Score 3 : Bad

Score 5 : Normal

Score 7 : Good

Score 9 : Very good

【Table 7】

	Example 1	Comparative Example 2
Adhesion	7.4	3.7

As can be seen from Table 7, when Example 1 according to the present invention was used, compared with Comparative Example 2 made of the all-cotton fabric sheet material, Example 1 showed a much higher score in the adhesion that the user realizes. Accordingly, it can be found that the mask sheet according to the present invention is superior to the general mask sheet material including the all-cotton fabric in terms of adhesion when using the mask sheet.

【Claims】

【Claim 1】

A mask sheet comprising:

a base layer impregnated with a wash-off type cosmetic composition; and

a blocking layer, which is laminated on one side of the base layer to prevent external water droplets from penetrating into the base layer.

【Claim 2】

The mask sheet of Claim 1, wherein the base layer is a non-woven fabric, all-cotton fabric, woven fabric, paper, foam or sponge.

【Claim 3】

The mask sheet of Claim 1, wherein material of the base layer is at least one selected from the group consisting of viscose rayon, modal, lyocell, tencel, cupra, polyester, polypropylene, polyethylene terephthalate, nylon, cotton, linen, pulp and cellulose.

【Claim 4】

The mask sheet of Claim 1, wherein the water content of the base layer is 100% to 200%.

【Claim 5】

The mask sheet of Claim 1, wherein the thickness of the base layer is 20 μm to 2 mm.

【Claim 6】

The mask sheet of Claim 1, wherein the thickness of the blocking layer is 10 μm to 500 μm .

【Claim 7】

The mask sheet of Claim 1, wherein the blocking layer is at least one film selected from the group consisting of fluorine-based resin, silicone-based resin, urethane-based resin, teflon-based resin, polyacrylonitrile (PAN), polyethylene oxide (PEO), polyethylene terephthalate (PET), polystyrene (PS), polyvinylidene fluoride (PVDF), polyurethane (PU), polyvinyl propylene (PVP), polyvinyl alcohol (PVA), Nylon, polyether sulfone (PES), polyether imide (PEI), poly(styrene-butadiene-styrene) (SBS), carboxymethylcellulose (CMC), polyethylene (PE), ethylene vinyl acetate resin and styrene-isoprene-styrene block copolymer.

【Claim 8】

The mask sheet of Claim 1, wherein the average pore diameter of the blocking layer is 0.4 nm to 100 μm .

【Claim 9】

The mask sheet of Claim 1, wherein the lamination with two or more layers constituting the mask sheet is made by at least one adhesive selected from the group consisting of an acrylic adhesive, a rubber-type adhesive, a polyurethane adhesive, a polyester adhesive, a silicone adhesive and a hot-melt adhesive.

【Claim 10】

The mask sheet of Claim 1, wherein the viscosity of the wash-off type cosmetic composition is 5,000 cps to 200,000 cps.

【Claim 11】

The mask sheet of Claim 1, wherein the wash-off type cosmetic composition comprises at least one original ingredient selected from the group consisting of plants, tea leaves, petals, sugar and scrubbing agent; and

the original ingredient is contained in an amount of 0.001 wt% to 50 wt% based on the total wash-off type cosmetic composition.

【Claim 12】

The mask sheet of Claim 1, wherein the mask sheet further comprises a release film laminated on the outer surface of the base layer impregnated with the wash-off type cosmetic composition.

【Claim 13】

A preparation method of a mask sheet comprising the following steps of:

S1) preparing a base layer;

S2) laminating a blocking layer on one side of the base layer; and

S3) spreading a wash-off type cosmetic composition on the other side of the base layer.

【Claim 14】

The preparation method of a mask sheet of Claim 13, wherein the wash-off type cosmetic composition comprises at least one original ingredient selected from the group consisting of plants, tea leaves, petals, sugar and scrubbing agent; and

the original ingredient is contained in an amount of 0.001 wt% to 50 wt% based on the total wash-off type cosmetic composition.

【Claim 15】

The preparation method of a mask sheet of Claim 13, which further comprises a step of laminating a release film on the base layer so that one side of the release film coated with the wash-off type cosmetic composition and one side of the base layer face each other, between the S2) step and the S3) step.

【Claim 16】

The preparation method of a mask sheet of Claim 13, which further comprises a step of folding the mask sheet so that the wash-off type cosmetic composition is not exposed to the outside, after the S3) step.

【Claim 17】

A skin care method using the mask sheet of any one of Claim 1 to Claim 12, which comprises the following steps of:

applying the mask sheet to the skin;

removing the mask sheet after shower or bath; and

rinsing the skin to which the mask sheet was applied with water.