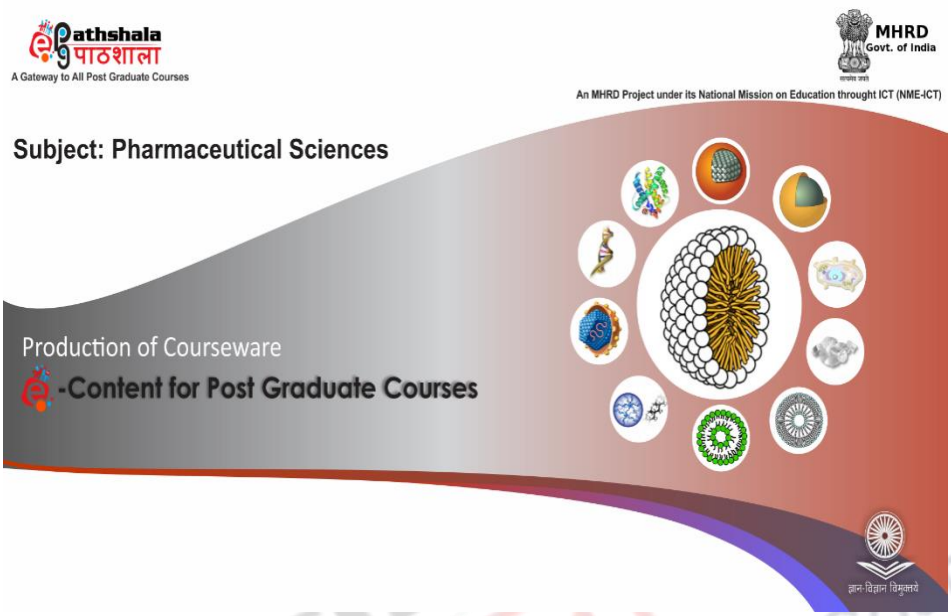

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Pharmaceutical sciences

Cosmetics

MASK AND SCRUBS FOR FACE AND BODY

CONTENTS

MASK AND SCRUBS FOR FACE AND BODY

1. INTRODUCTION

Cosmetics are the products which used for the purposes of beautifying, cleansing, promoting attractiveness or alternating one's appearance. The use of facial masks and mud baths dates to antiquity when muds were credited with almost miraculous healing powers. It was used in skin therapy and to treat internal ailments. The popularity of cosmetic masks and mud scrubs may be attributed to their combined psychological and physiological effect. The mystique and folklore of "wet earth" treatments are incorporated into many currently available skin and hair care products. These preparations are usually considered treatment cosmetics and are applied to the face, body, scalp, or hair in the form of gels, viscous liquids, or pastes. Mask fragrance and drying time are designed to enhance the therapeutic dimension of the mask or mud scrub. Some current preparations combine the therapeutic sensation of the mask formulation with pharmaceutical actives, physical skin and hair modifiers, and cleansing components. These include acne treatments, body mud scrubs with abrasives, gel or clay masks with alpha- or beta-hydroxy acids, and hair modifiers, as well as body boosters or conditioners.

"Wet earth" masks are usually allowed to dry or to set with the intention of improving appearance by cleansing and physically modifying the feel of the epidermis. Changes to the skin are felt as a transient tightening effect produced by the masks drying on the skin. The warmth and tightening those results from their application is the stimulating sensation of a rejuvenated face, while the adsorptive clays present in most contemporary masks adsorb oils and dirt. Epidermal debris and blackheads are removed when the treatment is washed off the face or body. The user interprets this as invigorated skin and the result is usually a noticeably improved complexion.

Masks are also applied to scalp and hair. These masks are usually formulated to remain wet. The scalp masks invigorate, sometimes having an associated cooling or heating effect. Masks that are applied to the hair are intended to make it feel or appear fuller and thicker. This is usually accomplished bymodifying the pH of the hair cuticle, plumping or lifting it by increasingthe pH.

Five basic systems of face packs/ masks are discussed under this topic. The preferred and most common types of masks are based on smectite and kaolin clay combinations with and without gums and polymers supporting the viscosity and feel. The other treatment masks are not as popular as clay masks. These are based on wax, rubber, vinyl resins, and hydrocolloid systems. The wax type mask must be applied heat. The natural rubber latex face mask does not provide pleasant application or feel and may pose a health concern. Facial strips that contain fast-drying resins have replaced the vinyl resin masks. Finally, the hydrocolloid masks do not have the luxurious feel or the following of clay masks. Most significantly, the marketing and promotion of the natural clay-based masks meld with the preference of healthy all natural products.

From the marketing point of view development of claims is essential for product identity and positioning. The addition of botanicals, fragrance, abrasives, and active ingredients will design the promotional benefits of the mask. Soothing, stimulating, invigorating, and clarifying are usually associated with certain herbs and natural ingredients. Oat flour, lufa, aloe vera, panthenol, and natural oils all carry a certain weight and add value by their mere presence on the label. The lack of pharmacologically active ingredients does not diminish the cleansing effect of the mask or scrub. The application of the mask provides the psychological ritual, be it relaxation or stimulation. The treatment ritual continues for the duration of the suggested drying time. The oil-absorbing properties of the clays and the cleaning ability of the surfactant system provide the real benefit of the mask. With the introduction of acid masks, it is important to remember that even though the application time of a mask is limited, an acid mask with the drying and oil-absorbing properties of kaolin and talc is an effective treatment medium. Excessive levels of acid or lack of pH adjustment may cause skin irritation.

The prototype formulas provided later are simple and offer a starting point. There are many variations possible, and usually the result is a successful product that is stable and aesthetically appealing. The proper order of addition and hydration of the bentonite reduces stability problems such as separation or syneresis. The total formula composition is just as important, and the balance of ingredients must be considered.

2. REQUIRED QUALITIES AND CHARACTERISTICS OF MASK AND SCRUBS FOR FACE AND BODY

The essential considerations in formulating a mask are as follows:

- It should be a smooth paste or gel without flocculation or gritty particles.
- It should not have an "earthy" or objectionable odor.
- It should form an adherent coating that can be easily removed by gentle washing.
- It should produce a definite sensation of tightening or a therapeutic tingling or warming.
- It should produce a perceptible modification of skin, hair, or scalp feel.
- It should produce a significant and noticeable cleansing of the skin, scalp, or hair.
- It should enhance volume and impart shine to the hair.
- It must be nontoxic, dermatologically innocuous, and appropriately preserved.

3. BASIC INGREDIENTS USED

Facial skin and its cleansing have always been a big concern for both men and women. According to studies, most women wash their face twice a day (in the morning and at bedtime), which is twice as often as they typically wash their bodies. In general, face pack or mask and face wash are used to remove dirt, makeup, environmental pollutants, germs, and other types of spoilage from the skin.A short summary of the typical ingredient used as follows:

3.1. Surfactants act as cleansing agents and emulsifiers. There are four main groupsof surfactants with different characteristics. Usually, they are used in combinationwith each other to build appropriate properties into the formulations.

- **Anionic surfactants** have good lathering and detergent properties, which are necessary to remove dirt. As mentioned earlier, natural soaps are anionic molecules as well. Examples for anionic surfactants include lauryl sulfates, such as sodium lauryl sulfate (SLS); laureth sulfates, such as sodium laureth sulfate; sarcosinates, such as triethanolaminelauroylsarcosinate; isethionates, such as sodium cocoylisothionate; taurates,

such as sodium methyl cocoyltaurate; sulfosuccinates, such as sodium dioctyl sulfosuccinate; and more recently the monoalkyl phosphates, such as potassium lauryl phosphate.

- **Cationic surfactants** have a positive charge which makes them attracted to the skin. Therefore, they can be employed as conditioning agents. Examples include amines, alkylimidazolines, alkoxylated amines, and quaternary ammonium.
- **Amphoteric surfactants** are well tolerated and lather well and, therefore, are also often used in facial cleansers as secondary surfactants to help boost foam, improve conditioning, and reduce irritation. Examples include betaines, such as cocamidopropyl betaine; imidazolinium derivatives; amine oxides, such as cocamidopropylamine oxide; and alkylamino acids.
- **Nonionic surfactants**, such as fatty alcohols; poloxamers; alkylene oxides; polyglucosides, such as lauryl glucoside; amides, such as cocamide diethanolamine (DEA), are very mild; thus, they are commonly used as emulsifiers, conditioning agents, and solubilizers. Their main drawback is that they do not lather particularly well. However, they form a perfect combination with anionics.

3.2. Solvents act as cleansing agents as well as provide a vehicle for various formulations. General examples include water (the most commonly used vehicle in emulsions),ethanol, isopropyl alcohol, or mineral oil as a non-polar solvent forcleaning purposes.

3.3. Thickeners are structuring agents, primarily used for gels, lotions, and creams. They provide appropriate rheological properties for the systems as well as contribute to their stability. Examples include hydrophilic ingredients, such as cellulose derivatives, gums, acrylates, and other types of polymers, as well as waxes for the oil phase.

3.4. Skin conditioning agents (otherwise known as moisturizers) counteract the SC-disruptive properties of soaps and surfactants. Examples include glycerin, olive oil, almond oil, mineral oil, silicone oils, waxes, panthenol, and allantoin.

3.5. pH buffers may be used for various reasons in facial cleansing products.

- Alkaline solutions are used for saponification. Examples include potassium hydroxide, sodium hydroxide, and ammonium hydroxide.
- Additional ingredients that may alter the formulation's pH include citric acid and lactic acid. They shift the pH into the acidic range, which is closer to the natural pH of the skin and are less irritant.
- pH buffers, such as triethanolamine, may also be needed to thicken the formulation via neutralizing the thickeners.

3.6. Abrasives Facial scrubs contain specific exfoliating components that are responsible for physical cleaning. Examples include natural components, seeds of many fruits (such as peach, apple, apricot), nut shells (such as almond, walnut), and grains (such as oats, wheat). Synthetic scrub particles include polyethylene or polypropylene beads. In addition, aluminum oxide particles and sodium tetraboratedecahydrate can also be used.

3.7. Colorants may contribute to the marketing appeal of the product. Both natural and synthetic colorants can be used as facial cleansers. In certain products, titanium dioxide or glycol stearate is used as an opacifier.

3.8. Fragrances are often added to facial cleansing preparations to mask the odor of the raw ingredients. It should be kept in mind, however, that they may be highly irritative, especially for users with sensitive skin.

3.9. Preservatives provide protection against microbiological contamination. Most systems contain preservatives, including parabens, phenoxyethanol, and benzoates.

3.10. Antibacterial agents are widely used in today's formulations. They may be beneficial for controlling certain skin conditions, such as acne; superficial skin infections, such as folliculitis; and control infections after exposure to dirt or other potential sources of contamination. These are generally considered active ingredients in products.

The most commonly used compound is triclosan; however, its safety and efficacy are currently being investigated in cleansing products by the FDA. Additional examples include benzoyl peroxide and lactic acid (soaps containing a higher amount of lactic acid have an acidic pH, which is thought to be antibacterial).

3.11. Absorbents are mainly used in facial masks to absorb sebum from the skin. These are water insoluble, mainly inorganic compounds. Examples include zinc oxide, titanium dioxide, kaolin, calamine, clay, and natural mud.

3.12. Astringents are the major ingredients in facial toners. They tighten pores and refresh the skin. Most of them are generally considered active ingredients. Examples include alcohol and witch hazel.

3.13. Certain soaps contain other ingredients, such as vitamins, and a variety of exotic natural ingredients (usually derived from fruits, other plants, etc.).

4. TYPES OF MASK AND SCRUBS FOR FACEAND BODY

There are several types of thesystem used for the formulation of face mask such as:

4.1. Clay (argillaceous earth) based formulations

Clay masks are by far the perennial favorite. China clay, colloidal kaolin, Fuller's earth, or smectite clay (i.e., bentonite, magnesium aluminum silicate,and hectorite) may be used as the "argillaceous" material. The naturally occurringsmectite clays, commonly referred to as bentonite and kaolin clays aretypically the primary ingredients of a clay mask. Bentonite gels have beendescribed as soothing to the skin. These gels have also been used in a numberofdermatological preparations such as acne treatment masks with benzoylperoxide. They can also play a significant role in the treatment of eczema, abscesses, sores, and wounds.

As clay mask dries on the face it hardens and contracts, giving thesensation of mechanical astringency. The presence of absorbent clays such asbentonite and kaolin produces an excellent

and instantly noticeable cleaningeffect, particularly on oily complexions. Most clays are off-white in color, butwhite, red, yellow, brown, blue, green, purple, and even black clays are known.If the color of the mask needs to be lightened and brightened, opacifiers orwhiteners, such as titanium dioxide or zinc oxide, can be added. On the otherhand, theaddition of dark clay and coloring may enable marketing of a black orgreen sea mud mask.

Other mask components may include surfactants, emulsifiers, and emollients.Gums and polymers such as xanthan, guar, methylcellulose, or carrageenanmay be added to stabilize the suspension of solids and to contribute tothe mechanical strength of the dried film. Glycerin, propylene glycol, butylene glycol, or sorbitol may be added as plasticizers to improve spreadability andskin feel and as humectants to control drying rate. They will also improve thelong-term stability of the product, reducing cracking and separation at coldtemperatures or in freeze/thaw cycling. Addition of active ingredients such assulfur, astringents, bleaching agents, benzoyl peroxide, or other active agentsmay confer special attributes to the mask. The regulated active agents mustbe stable and recoverable in the mask over the shelf life of the product.

Because of their consistency and viscosity, clay masks are usually packagedin wide-mouth jars, tubes, or single use sachets. The viscosity can be controlledby the formulation, but heavier consistency masks are commonly preferred.

The addition of cationic raw materials such as conditioning agents, surfactants,or antimicrobials may disrupt the colloidal structure generated by the bentonite.Use levels should be kept below 3%, since ahigher concentration of cationicmay flocculate the anionic bentonite and cause instability. Cationic raw materialsshould be incorporated at the end of the compounding process, not atthe beginning. The addition of a cationic substance prior to hydration of thebentonite will cause improper hydration that will reduce or even eliminate itsdesired properties. Cationics may also react with other anionic components,producing flocculation and poor product stability. The correct balance of cationicsubstances can produce interesting properties of the mask or scrub such asthickening and residual conditioning effects.

Other ingredients commonly added to masks and scrubs are polyethylenebeads, lufa, and oat flour. They assist in the marketing story, aid in maskremoval, and change the perception of the cleansing of the skin.

Many clay masks also include an emulsion system. Proper equipment isneeded to work with these types of products. The viscosity generated andheat requirements may limit lab work capability. Scale-up to production sizebatches may reveal rheological differences in the formula.

4.2. Waxed based formulations:

Wax-based masks generally consist of paraffin and microcrystalline wax blended to melt a few degrees above body temperature. They may also include petrolatum or mineral oil and polar materials such as cetyl and stearyl alcohols. The more highly formulated wax masks are seen predominantly in professional salons.

Wax masks are solid at room temperature and are melted prior to use. They are brushed on when warm, just slightly above their melting point. The heat of the preparation opens the pores, and as the wax hardens, it produces a sensation of tightness. The wax film forms a moisture-proof barrier. This induces profuse perspiration that helps to flush impurities from the follicular openings. The occlusive wax coating also softens call used skin by reducing trans-epidermal water loss.

4.3. Rubber based formulations:

Rubber-based face masks are not currently popular because they are not perceived as "natural." There are also other growing concerns. Sensitized individuals are prone to develop contact dermatitis caused by the presence of residual accelerators. The other more serious concern is that of allergic reactions to latex. Natural rubber latex derived from the sap of a rubber tree contains proteins that can cause allergies. These allergic reactions are severe and may include death. There is adeproteinized natural latex available that has been treated with a proteolytic enzyme and should be considered during formulation.

These natural rubber latex masks are applied to the skin as liquids and allowed to set. Once dry, they form a continuous, elastic, and water-impermeable film. Their primary function is to restrict normal skin respiration. The thin film also causes heat retention and increased blood circulation. Rubber masks are removed easily by simply pulling. After removal, slight plumping of the skin is noticeable. This effect, however, is transient and disappears after skin respiration returns to normal.

4.4. Vinyl resins based formulations:

The vinyl-based products are known as peelable face masks. These products enjoyed some popularity in the past but are seldom seen in product lines today because of their "chemical" nature. They are generally based on polyvinylalcohol or vinyl acetate resin as the film-former. Vinyl masks do not provide the physical and psychological sensations of clay masks. They are therefore considered less luxurious and generally not preferred. Today face strips that pull out impurities and blackheads have effectively replaced them.

Formulas 5 and 6 use polyvinyl alcohol (PVA). The PVA should beadded to cold water. The suggested effective use concentration of PVA iscommonly up to a 10% maximum. There are two types of PVAs available:cold water-soluble and those that require that the water is heated to 80^0Cafter the PVA is wet out. Although the cold water-soluble PVA is dustier thanthe conventional PVA, it dissolves easily allowing for cold processing. Theaddition of alcohol is optional, and it is commonly added to the formula toassist in the clarity and to reduce the drying time.

In all the peels, the film is plasticized by the inclusion of humectants such asglycerol, propylene glycol, butylene glycol, or sorbitol. A single component ora combination of humectants can be used. A mild surfactant assists in removingthe peel. The pH of the mask should be maintained between 4 and 7. The additionof an opacifier (0.1 to 1.0%) is optional and only suggested for whitening of theopacified masks.

4.5. Hydrocolloids based formulations:

Hydrocolloid masks are based on organic gums such as tragacanth gum, xanthan gum, gelatin, casein, carrageenan, sodium carboxymethylcellulose, acacia and guar gum, and polyvinylpyrrolidone, carbomer, and mixtures of the above. Masks are formulated either as high-viscosity sols, which after application lose water and form a flexible gel film or as solid gels, which are melted before application. The shrinking of the gel upon dehydration produces the sensation of tightness. The film may be plasticized by the addition of common humectants such as glycerol, propylene glycol, butylene glycol, or sorbitol. The viscosity and properties of these masks can be varied considerably depending on the colloid used, its concentration, and by forming synergies with other ingredients.

Masks based on hydrocolloids are easier to apply and dry more rapidly than clay masks. Their cleansing action, however, is inferior because they do not contain a sufficient amount of solids to effectively adsorb oil and dirt. Drying can be accelerated by the incorporation of alcohol. However, theaddition of alcohol restricts the choice of hydrocolloid since many are not alcohol-tolerant. Certain grades of methylcellulose, carbomer, and polyvinylpyrrolidone are stable in such systems and can be used in hydro-alcoholic masks.

Face masks based on hydrocolloids may also contain small quantities of finesolids that act as opacifiers and which sometimes facilitate application. Kaolin,bentonite, talc, zinc oxide, or titanium dioxide can be used, but in amountsnot exceeding 5%. Too much particulate matter causes theformation of a discontinuousfilm reducing or lacking the mechanical strength and skin-tighteningeffect. Formula 7 demonstrates the composition of a hydrocolloid facemask that permits a number of modifications. To improve thestability of theproduct, the pH of these types of masks should be maintained between pH 4and 7.

5. FORMULATIONS

A general formula and formulation for Clay Face Mask Neutral pH is represented in table 1.

Table 1: Clay Face Mask Neutral pH.

S. No.	Ingredients	Percent use
1.	Water	q.s. to 100%
2.	Bentonite	1 to 8%
3.	Methylcellulose	0.1 to 1.0%
4.	Kaolin	5 to 40%
5.	Propylene glycol	2 to 10%
6.	Sodium lauryl sulfate	2 to 20%
7.	Titanium dioxide	up to 1.0%
8.	pH buffer	Adjust to between 5 and 8
9.	Preservative, fragrance, and color	q.s.

The preparation of clay face mask neutral pH involves the following distinct steps:

1. The bentoniteneeds to be hydrated in the water prior to addition of the other ingredients.
2. The thickener (methylcellulose) is added into the water vortex either slurried with a propylene glycolas ahumectantor sifted in slowly to avoid theformation of aggregates.
3. Mix until uniform, and then add the kaolin as oil absorbent.
4. Follow with the humectant and add the sodium lauryl sulfate as asurfactant.
5. The addition of the titanium dioxide as opacifier is optional.

A general formula and formulation for Clay Face Mask Acid pH is represented in table 2.

Table 2: Clay Face Mask Acid pH.

S. No.	Ingredients	Percent use
1.	Water	q.s. to 100%
2.	Bentonite	1 to 8%
3.	Xanthan gum	0.1 to 1.0%
4.	Kaolin	5 to 40%
5.	Glycerin	2 to 10%
6.	Sodium lauroylsarcosinate	2 to 20%
7.	Titanium dioxide	up to 1.0%
8.	Alpha- or beta-hydroxy acids	2 to 10%
9.	pH buffer	to a pH of 3.5 to 4
10.	Preservative, fragrance, and color	q.s.

The preparation of clay face mask acid pH involves the following distinct steps:

1. The bentonite to be hydrated in the water prior to addition of the other ingredients.
2. The xanthan gum is added into the water vortex either slurried with a humectant or sifted in slowly to avoid theformation of aggregates.
3. Add the glycerol and follow with the kaolin and sodium lauroylsarcosinate.
4. The addition of the titanium dioxide is optional.
5. The pH of an acid mask should be adjusted to between 3.5 to 4. This can be accomplished using sodium lactate as the buffer.
6. When using sodium lactate to buffer the pH, it is necessary to include the acid generated from the presence of sodium lactate into the final acid concentration and maintain it at the permitted alpha-hydroxy acid level.
7. An acid mask with the drying and oil-absorbing properties of kaolin and talc is an effective treatment medium.
8. Excessive levels of acid or lack of pH adjustment may cause skin irritation.

A general formula and formulation for Clay Face Mask with EmulsionSystemis represented in table 3.

Table 3: Clay Face Mask with EmulsionSystem.

S. No.	Ingredients	Percent use
1.	Water	q.s. to 100%
2.	Hectorite	1 to 5%
3.	Guar gum	0.1 to 1.0%
4.	KaolinClay	5 to 40%
5.	Sorbitol	2 to 10%
	Emulsion system	
6.	Tallow or coconut fatty acids	Up to 10%
7.	Cetyl alcohol	up to 2.0%
8.	Olive oil	Up to 10%
9.	Opacifier	0.1 to 1.0%
10.	pH buffer	adjust to 6 to 8
11.	Preservative, fragrance, and color	q.s.

The preparation of clay face mask acid pH involves the following distinct steps:

1. The hectorite needs to be hydrated in the water prior to addition of the other ingredients.
2. The guar gum is added into the water vortex either slurried with a sorbitol as ahumectant or sifted in slowly to avoid theformation of aggregates.
3. Add the humectant and follow with the oil absorbent.
4. Heat the water phase to ~ 75 °C. Apply good mixing.
5. Blend the oil phase ingredients and heat the oil phase to ~ 75 ^{0}C; when both phases are at temperature, add the oil phase to the water phase.
6. The addition of the opacifier is optional.
7. Buffer the pH to between 6 and 8.
8. Mask formulas such as those mentioned earlier can be easily modified to produce mud scrubsby forming soaps using tallow or coconut fatty acids.
9. Detergency can also be achieved by using conventional surfactant systems.

A general formula and formulation for WaxMaskis represented in table 4.

Table 4: Wax Mask.

S. No.	Ingredients	Percent use
1.	Paraffin wax	60%
2.	Microcrystalline wax	10 to 15%
3.	Cetyl or stearyl alcohol	up to 5%
4.	Mineral oil or petrolatum	up to 20%
5.	Quaternium-18 hectorite	up to 3%
6.	Preservatives, fragrance, and color	q.s

The preparation of Wax Mask involves the following distinct steps:

1. Melt all the ingredients together.
2. Apply appropriate mixing to uniformly blend the wax mixture with the oils.
3. Transfer the melted wax into forms while hot.
4. Formulating the wax blend so that the melt is thixotropic will facilitate uniform application.
5. This can be achieved by the incorporation of a small amount of organophilichectorite clay.

A general formula and formulation for Clear Vinyl Maskisrepresented in table 5.

Table 5: Clear Vinyl Mask.

S. No.	Ingredients	Percent use
1.	Water	q.s. to 100%
2.	Polyvinyl alcohol (PVA)	5 to 10%
3.	Sorbitol	up to 10%
4.	Sodium lauryl sulfate	2 to 5%
5.	Alcohol denat. or SDA	up to 30%
6.	pH buffer	adjust to 4 to 7
7.	Preservatives, fragrance, and color	q.s.

The preparation of Clear Vinyl Mask involves the following distinct steps:

1. Add the PVA to water at room temperature.
2. Then heat to ~ 80 ^{0}C until the PVA has dissolved, or use PVA that is cold water-soluble.
3. Organic gum or polymeric thickeners may be added to the PVC mask in order to increase the viscosity.
4. The addition of alcohol will require the use of an alcohol tolerant thickener.
5. Add the humectant or plasticizer and follow with the surfactant.
6. Mix until uniform.
7. Cool to room temperature before adding the alcohol.
8. The formula is a water-white, clear, slightly viscous liquid.

A general formula and formulation for Clear Vinyl Maskisrepresented in table 6.

Table 6: Opaque Vinyl Mask.

S. No.	Ingredients	Percent use
1.	Water	q.s. to 100%
2.	Bentonite	3 to 5%
3.	Methylcellulose	Up to 1.0%
4.	Glycerin	Up to 10 %
5.	Kaolin clay	up to 10 %
6.	Polyvinyl alcohol (PVA)	5 to 10%
7.	Titanium dioxide	0.1 to 1.0%
8.	Sodium lauryl sulfate	2 to 5%
9.	Alcohol denat. SDA	up to 20%
10.	pH buffer	adjust to 4 to 7
11.	Preservatives, fragrance, and color	q.s.

The preparation of Opaque Vinyl Mask involves the following distinct steps:

1. The rheology modifier (bentonite) needs to be hydrated in the water prior to addition of the other ingredients.
2. It is important to remember that improper hydration of bentonite will reduce or even eliminate the desired properties generated by this raw material, causing syneresis, poor suspension, and possible separation or settling.

3. Organic gum or polymeric thickeners may be added to the PVC mask in order to increase the viscosity.
4. The addition of alcohol will require the use of an alcohol-tolerant thickener.
5. Add the PVA at room temperature (heat to ~ 80 ^{0}C if necessary) and mix until dissolved.
6. Add the humectants, and then follow with kaolin, the opacifier, and surfactant.
7. Cool to room temperature before adding the alcohol.
8. This formula is opaque and uses bentonite to suspend the particulates.
9. It may contain alcohol to improve the drying properties.

A general formula and formulation for Hydrocolloid Maskis represented in table 7.

Table 7: Hydrocolloid Mask.

S. No.	Ingredients	Percent use
1.	Water	q.s. to 100%
2.	Bentonite	up to 2%
3.	Methylcellulose	1.0 to 20%
4.	Glycerin	2 to 10%
5.	Kaolin clay	up to 5%
6.	Titanium dioxide	up to 1.0%
7.	Sodium lauryl sulfate	up to 5%
8.	Alcohol denat.	up to 50%
9.	pH buffer	adjust to 4 to 7
10.	Preservatives, fragrance, and color	q.s.

The preparation of Hydrocolloid Mask involves the following distinct steps:

1. The bentonite (rheology modifier) needs to be hydrated in the water prior to addition of the other ingredients.
2. As the main component of the face mask, choose one or a blend of methylcellulose (hydrocolloid).
3. Add the hydrocolloid into the water vortex either slurried with a humectant (glycerin) or sift in slowly to avoid theformation of aggregates.

4. The humectants may be used to slurry the hydrocolloids or added independently to promote film properties.
5. Add the kaolin clay, opacifier (titanium dioxide), and surfactants (sodium lauryl sulfate). Follow with the alcohol and adjust the pH.

6. PACKAGING OF MASK AND SCRUBS FOR FACEAND BODY

The most commonly used packaging materials for facial makeup products include the following:

***Bottles and Soft Tubes*:** The majority of liquid foundations are available in glass or plastic bottles or in soft tubes. Bottles often have a pump head to provide convenient dispensing. In addition, it reduces the chance of microbial contamination. Liquid foundations are usually applied with the fingers, a brush, or a sponge. Some cosmetic companies prefer tubes with an applicator for concealers. These are identical to lip gloss containers.

Foam Pump:Liquid hand soaps and hand sanitizers can be dispensed from special dispensers, which create foam from a solution at the time of dispensing the product. There are automatic dispensers where customers do not have to touch the equipment. These products have a motion sensor that detects the user's hand and automatically dispenses a dose of foam soap.

***Glass and Plastic Jars*:** Cream, mousse, and cream-to-powder foundations and some cream blushes are usually marketed in glass or plastic jars.

***Stick Cases*:** Cream blush and concealers can be found in the form of sticks packaged into stick cases (similar to lipsticks).

***Godet*:** Compact facial powders, two-way foundations, and compressed blushes are usually available in a godet identical to containers of cake mascara and compact eyeshadow. It usually comes with a small brush or a sponge, and in the majority of the products, a mirror is also part of the package.

***Pencil*:** A small group of concealers are found in the form of soft leaded crayons or pencils. These are identical to eyeshadow pencils.

7. EVALUATIONS

7.1. Colour:

The colour of powder should be near to the skin tone to provide a covering of blemishes of skin, without its visibility.

7.2. Odour:

By smelling the product.

7.3. pH determination:

1 gram of product with 9 gram of water and shake vigorously thendetermine pH by glass or low range pH paper in aqueous solution.

7.4. Adhesiveness:

It is a characteristic of particle size and shape and checks by simplyrubbing the power on theskin. If there is no irruptions and rashes, thenconsider it as free from grittiness.

7.5. Spreadability:

It is the term in which the product spread on the area and it should begoodspreadability with smoothness or free from thegrittiness of theparticle.

7.6. Patch test

Non-irritancy of the preparation is evaluated by patch test. This test is performed to evaluate the safety of face packs on theapplication. Even though the formulations contain all natural ingredients, from the safety point of view we performed this test for three parameters i.e.,

Primary irritation test, Delayed hypersensitivity and Photo irritation or allergy and the procedure for all test is as follows:

Primary irritation: In this test 24 human volunteers are selected. Definite quantities of prepared face packs were applied in combination with purified water and honey separately on the back or volar forearm region for 30 days. Prior to the application of face pack, any signs of irritation observed are noted. No visible reaction or erythema or intense erythema with edema and vesicular erosion should occur. All seven formulations were evaluated by thesame procedure and possible reactions with different degrees like -No Irritation, + Mild irritation, ++ Moderate irritation, +++ High.

Delayed hypersensitivity: Delayed hypersensitivity test is performed with the same procedure as in primary irritation test by increasing the application time and observance time. After washing of face pack from the skin the reactions were measured for 2 Hrs of time and noted down.

Photo irritation/ allergy: Some ingredients may produce an allergic reaction only when exposed to light (usually UV). This test is aimed to know the possible photo allergic reactions of the prepared face packs on exposure to sun light on application. All the formulated face packs were applied as in the Primary irritation test and the individuals are asked to expose themselves to sun light and possible reactions in the terms of itching, allergy, irritation, and signs of redness after washing are measured and noted down.

7.7. Stability studies

The prepared formulations are subjected to stability studies by storing at different temperature conditions for the period of one month. All the formulations were packed in glass vials separately and stored at different temperature conditions viz.., Room temperature, 35ºC and 40ºC and were evaluated for physical parameters like Color, Odor, pH, Consistency and feel.

8. BENEFITS OF APPLYING MASK AND SCRUBS FOR FACEAND BODY

1. Nourishes the skin. Fruit face packs supply essential nutrients to theskin.
2. Mask and scrubbers helps to reduce, acne, pimple, scars and marks depending on its herbal ingredients.
3. Face packs which are recommended for acne, pimple, black heads usually control the over discharge of sebum from sebaceous glands and remove the harmful bacteria inside acne lesion.
4. The scars and marks of skin can be reduced by adding fine powder of sandal, rose petals and orange lentils with acne face pack.
5. Face packs usually remove dead cells of theskin.
6. These face masks provide a soothing and relaxing effect on theskin.
7. They help to restore the lost shine and glow of skin in short span of time.
8. Regular use of natural face masks brings aglow to theskin, improve skin texture and complexion.
9. The harmful effects of pollution and harsh climates can be effectively combated with judicial use of face packs.
10. They help to prevent premature aging of theskin.
11. Formation of wrinkles, fine lines and sagging of skin can be effectively controlled by using natural face packs.
12. Natural face packs make the skin look young and healthy.

9. PRECAUTIONS TO BE TAKEN WHILE APPLYING MASK AND SCRUBS FOR FACEAND BODY

- Select the face pack according to your skin type. Take theopinion of anatural therapist or concerned skin expert before applying aface pack.
- The face pack should not be left on theface more than 15 to 20 minutes. Keeping for very long time may result in theformation of wrinkles, sagging skin and enlargement of open pores.

- Apply face pack once in a week.
- Don't try to peel or scratch the dried face pack. This may harm underlying skin. Spray water (which is at room temperature) on theface before removing dried face pack. After removing the mask, roll an ice cube on facial skin. This helps to close open pores and tightens skin. It also tones and soothes the skin.
- Do not scrub face vigorously. This may result in theeruption of pimples and dark spots.
- Stay away from heat when you have applied aface pack.
- Avoid applying face pack near "eye zone". The skin around theeye is very delicate. The process of removing face pack may damage theskin around eyes.

10. MARKETED PRODUCTS

Brand	Manufacturer
Garnier	L'Oréal, France
Clean & Clear	Johnson & Johnson, U.S.
Himalaya	The Himalaya Drug Company, India
Lakme	Hindustan Unilever Ltd, India
Nivea	Nivea, Germany
Everyuth	Zydus Wellness Ltd., India
VLCC	VLCC Health Care Limited, India