“MAGNETIC FACE MASK A NOVEL ALTERNATIVE OVER AVAILABLE FACE MASK”

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Abstract

Beautiful, healthy skin is ready by the healthy structure and proper function of components within the skin. To want care of lovely skin, and slow the speed at which it ages, the structures and functions of the skin must be supplemented and guarded. So, on grasp the thanks to supplement and protect the skin, it is vital to grasp more about the skin’s basic anatomy and composition. There are three major components of the skin. First is that the hypodermis, which is subcutaneous (just beneath the skin) fat that functions as insulation and padding for the body. Then is that the dermis, which provides structure and support. Last is that the epidermis, which roles as a defensive protection for the body.

Keyword: Magnetic masks, Cocoa seed extract, Squalane

1. INTRODUCTION

1.1. Morphology of skin:

A. Epidermis:

The epidermis is that the outermost layer of the skin. Considered into five horizontal layers, the epidermis actually involves of anywhere between 50 cell layers (in thin areas) to 100 cell layers (in thick areas). The everyday epidermal thickness is 0.1 millimeters, which is about the thickness of 1 sheet of paper. The epidermis acts as a protective shield for the body and totally renews itself approximately every 28 days

1. Stratum basale
2. Stratum spinosum
3. Stratum granulosum
4. Stratum lucidum
5. Stratum cornium

Fig. 1. Morphology of Skin

The first layer of the epidermis is that the stratum. This can be the deepest layer of the epidermis and sits directly on top of the dermis. It's one layer of cube-shaped cells. New epidermal skin cells, called keratinocytes, are formed during this layer through biological process to exchange those shed continuously from the upper layers of the epidermis. This regenerative process is termed vegetative cell renewal. As we age, the speed of cell renewal decreases. Melanocytes, found within the stratum, are chargeable for the assembly of skin pigment, or melanin. Melanocytes transfer the melanin to close keratinocytes which will finally migrate to the surface of the skin. Melanin is photoprotective: it helps protect the skin against ultraviolet illumination. The second layer of the epidermis is that the stratum spinosum, or the prickle-cell layer. The stratum spinosum consists of 8–10 layers of polygonal (many sided) keratinocytes. During this layer, keratinocytes are starting to become somewhat flattened. The third layer is termed the stratum, or the granular layer. It's composed of 3–5 layers of flattened keratin—a tough,
fibrous protein that offers skin its protective properties. Cells during this layer are too far away from the dermis to receive nutrients through diffusion, in order that they begin to die. The fourth layer within the epidermis is named the stratum, or the clear layer. This layer is present only within the fingertips, palms, and soles of the feet. It's 3-5 layers of extremely flattened cells. The fifth layer, or corneum, is named the corneum. This can be the highest, outermost layer of the epidermis and is 25-30 layers of flattened, dead keratinocytes. This layer is that the real protective layer of the skin. Keratinocytes within the stratum are continuously shed by friction and replaced by the cells formed within the deeper sections of the epidermis. In between the keratinocytes within the corneum are epidermal lipids (ceramides, fatty acids, and lipids) that act as a cement (or mortar) between the skin cells (bricks). This mix of keratinocytes with interspersed epidermal lipids (brick and mortar) forms a water-resistant moisture barrier that minimizes transepidermal water loss (TEWL) to stay moisture within the skin. This moisture barricade shields against invading microorganisms, chemical irritants, and allergens. If the integrity of the moisture barrier is compromised, the skin will become liable to dryness, itching, redness, stinging, and other skin care concerns.

**b. Hypodermis:**

The hypodermis is that the deepest section of the skin. The hypodermis refers to the fat tissue below the dermis that insulates the body from cold temperatures and provides shock absorption. Fat cells of the hypodermis also store nutrients and energy. The hypodermis is that the thickest within the buttocks, palms of the hands, and soles of the feet. As we age, the hypodermis begins to atrophy, contributing to the thinning of aging skin. Dermis: The dermis is found between the hypodermis and also the epidermis. It’s a fibrous network of tissue that gives structure and resilience to the skin. While dermal thickness varies, it's on the average about 2 mm thick. The major components of the dermis work together as a network. This mesh-like network consists of structural proteins (collagen and elastin), blood and lymph vessels, and specialized cells called mast cells and fibroblasts. These are surrounded by a gel-like substance called the bottom substance, composed mostly of glycosaminoglycans. The bottom substance plays a critical role within the hydration and moisture levels within the skin. The most common structural component within the dermis is that the protein collagen. It forms a mesh-like framework that offers the skin strength and adaptability. The glycosaminoglycans—moisture binding molecules—enable collagen fibers to retain water and supply moisture to the epidermis. Both collagen and elastin proteins are produced in specialized cells called fibroblasts, located mostly within the upper fringe of the dermis bordering the epidermis. The dermis are blood vessels, lymph vessels, nerves, and mast cells. Mast cells are specialized cells that play a very important role in triggering the skin’s inflammatory response to invading microorganisms, allergens, and physical injury.

**1.2. Face Mask:**

Facial masks are wont to refresh and treat all skin types (oily, dry, normal). All facial masks are made from different ingredients for various purposes. Purposes contain tightening and toning, hydrating, nourishing, drawing out impurities, helping marks heal, calming and soothing, and rejuvenating the skin. They’re used for general skin health as well as for specific skin conditions. Some masks are designed to dry or solidify on the face, almost like plaster; others just remain wet. Face masks are one in every of my favorite skin care products. They’re easy to use, fun to use and are great at providing results. My much loved thing about applying a covered mask is that the sensitivity of tightened and toned skin later one use. Should everyone use a face mask? Absolutely. Face masks are the proper skin care treatment to assist you together with your skin care concerns. The proper mask can benefit hydrate skin, eliminate additional oils and help recover the looks of your pores. They’re also an excellent thanks to help pull out impurities. Another advantage of wearing a face mask: the sensation of being pampered like you’re at a spa from the comfort of your house. Helps your overall regiment. Masking helps all of your other skin care products work more efficiently. If you would like your day lotions, serums and nighttime products to be absorbed by your skin quicker and deeper, then a mask is a requirement. By masking on each day to day, you'll make sure that your toning, hydrating and protecting products will all perform better, providing you with the
results you’re looking to understand at the only way faster pace. Five Reasons to use a mask Right Now:

**A. Relaxation:**

Face masks don’t just offer results that improve the general appearance of your skin, they will even be quite therapeutic. When they’re infused with aromatic essential oils like mint and rosemary, a mask can lift your spirit by stimulating your senses. Employing a mask should be treated as a luxury. Put aside a touch of “me” time after you plan to give yourself a mask. Draw a hot bath, light some candles and let the magic of the mask begin to figure. You’ll be drawn into an exquisite, sensory experience which will not only relax the mind and spirit but will leave you with fabulous looking skin.

**B. Deep cleansing:**

Sure, cleaning day by day benefits to wash your skin by eliminating dirt, oil, makeup and impurities from the outward of the skin. But did you recognize that proper masking takes the cleansing process to a full new level? Only a decent facial mask can help to lengthen impurities that hide beneath the highest layers of the epidermis. Some people say that their skin goes through a “detoxing” once they use a mask, because they really notice the changes within the skin while this can be happening. Masks are incredible at providing this deeper cleansing process, which results in an improvement within the appearance of pores that you just can see and feel. Who doesn’t love that?

**C. Unclog pores:**

Masking with a product that contains Bentonite clay helps to get rid of dirt and absorb excess oils. It’ll also help to get rid of the build-up of dead skin cells that accumulate on our skin. After you remove all the debris from the surface of your skin, it’ll help to unclog pores, too. We all know that clogged pores are nothing but trouble. Yucky stuff gets trapped in your pores and gets pushed in spite of appearance into the pore where bacteria can develop. Once that bacteria starts to grow it’s everywhere for our skin, because we’ll soon get a blemish, a flurry of breakouts or perhaps one giant pimple that may wreak havoc on our life for several days. Regular face masks help to stay your skin surface clean and our pores unclogged. This can be a superb reason to use your mask at once.

**D. Glowing skin:**

Masks, particularly those with tingly mint within the preparation, can help encourage blood circulation. The method of the mask drying on your skin and getting down to harden, together with the removal of the mask, causes an expansion within the blood vessels in your skin. This ensures an overall improvement in skin tone. You’ll be left with softer-feeling and smoother-looking skin, and you’ll also notice a radiant glow and more refreshed appearance. So, relax, feel the tingle, take a breath the minty aroma and look forward to your skin transformation.

**E. Wrinkles:**

Avoiding excessive sun exposure reduces skin damage, because the sun causes the skin to age faster. Hats, protective clothing, and sun screens can defend the skin from wrinkles by falling sunlight damage. Zero exposure to sunlight totally isn’t recommended, however, because it’s a significant source of cholecalciferol, and cholecalciferol is important for bone strength and other aspects of health. Some sunscreens can protect the skin while allowing ergocalciferol to be synthesized. Moisterizers don’t prevent wrinkles, but they’ll help temporarily make tiny lines and creases less evident.

**Cause:**

Wrinkles are a natural a part of the aging process. As people develop, their skin gets thinner, drier, and fewer elastic, and fewer ready to protect itself from damage. This ends up in wrinkles, creases, and features on the skin.

**Advantages:**

- Face mask can facilitate your to induce clearer skin and more refined pores.
- It shallow rinses the pores and disappears the pores of dead skin cells, metabolic wastes and also the oily materials that will clog them.
• Regular use of face masks can reduce the signs of aging like fine lines, wrinkles and brown spots so on

Disadvantage:
• Redness and Irritation.
• The most common side effects of a facial are redness and blotchy skin from the pressure of exfoliation and extractions.
• Breakouts.
• Post-facial breakouts often result from bacteria that makes its way onto your skin during your facial.
• Scarring.
• Dryness.

1.3. About Magnetic face Mask:

We all know the astounding power that magnets possess. Thus, this magnetic mask could be a true revolution, here’s my review of it. We use them for straightforward stuff wish to spruce up our refrigerators with decorative figures and for more complicated tasks like lifting cars and heavy machinery off the bottom. The magnetic powers of this mask are improved by the presence of moisturizers and nutritious ingredients like vitamins like to in the other traditional mask. This soothes and smooths skin. If you've got suffered from breakouts and acne at any point in your life, you recognize the heartaches that unclear skin can cause, especially if you've got oily skin. this can be an amazing blow to your self-esteem and confidence. But modern medicine has found some way to use advanced technology to administer you clear skin and a lift of confidence with this magnetic mask. If you've got suffered from breakouts and acne at any point in your life, you recognize the heartaches that unclear skin can cause, especially if you've got oily skin. this is often an incredible blow to your self-esteem and confidence. Magnets are used for hundreds of years by many cultures to heal wounds. Modern medicine supports its healing powers because it has been found that when magnets are applied to an inflammatory injury, it reduces swelling to hurry up healing. Magnets do that by limiting blood flow to the affected area. This magnetic therapy will be applied to the face through magnetic face masks to heal wounds caused by pimples and other kinds of acne

Advantages:
• Magnetic masks essentially unclog pores to go away you with youthful, glowing skin.
• You simply apply the magnetic mask and it draws out impurities and other polluting particles, which might result in the premature aging, acne breakouts and wrinkling of skin, away.
• As the magnets draw impurities and therefore the like aloof from pores and leaves skin clean, the surface is best ready to breath better.
• This results in less acne breakouts and so, less dark marks and scars for clearer, smoother skin.

1.4. Marketed Products:
• Best face mask overall: Fresh Umbrian Clay Pore Purifying Face Mask.
• Best soothing face mask: Kiehl's Calendula & Aloe Soothing Hydration Masque.
• Best sheet mask: SK-II Facial Treatment Mask.
• Best overnight face mask: Laneige Water Sleeping Mask.

2. AIM:

MAGNETIC FACE MASK A NOVEL ALTERNATIVE OVER AVAILABLE FACE MASK.

3. OBJECTIVE:

1. The application of Magnetic face mask is easier than other normal face mask as well as it can be easily removed with the help of magnet.
2. Magnet helps to improve the blood circulation of the skin.
3. Development of multifunctional face mask.

4. ACTIVE INGREDIENTS:

4.1. Squalane
Squalane helps to stop sun damage, which may have a premature aging effect on the skin. It is a moisturizer that increases the skin’s hydration. However, squalane is quite an anti-aging substance. It’s also an anti-inflammatory that may alleviate skin conditions like psoriasis or eczema. Squalane oil is good for all skin types, including oily skin. Because it’s non-comedogenic and lacks the oily residue, it’ll not clog your pores and has also shown to be as powerful as retinol when it involves fighting free radicals and reversing damage caused by the sun. Oxidised, rancid oils don’t have great benefits for your skin. However where unsaturated oils lose, saturated oil win out. Squalane oil as a water-logged oil is enormously stable. It lasts well within the bottle and on your skin.

**Fig.2. Squalane**

### 4.2. Nutrients of Squalane:

Squalane is a triterpene consisting of 2,6,10,15,19,23-hexamethyltetrasosane having six double bonds at the 2-, 6-, 10-, 14-, 18- and 22-positions with (all-E)-configuration. It has a role as a human metabolite, a plant metabolite, a Saccharomyces cerevisiae metabolite and a mouse.

<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>410.7 g mo</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.499</td>
</tr>
<tr>
<td>Viscosity at 25°C</td>
<td>12 cP</td>
</tr>
<tr>
<td>Density</td>
<td>0.858 g/mL</td>
</tr>
<tr>
<td>Boiling point at 25°C</td>
<td>285°C</td>
</tr>
</tbody>
</table>

**4.3. Uses:**

- It balances drilling.
- It providing barely enough moisture to stay the skin clear and healthy.
- Squalane oil also has powerful anti-aging properties and can help the skin age gracefully.
- It also act as anti-inflammatory benefits to assist with skin conditions like acne and eczema.

### 5. COCA SEED EXTRACT:

Theobroma cocoa, also called the cocoa tree. The tree bean has over 300 identifiable compounds including vitamins, minerals, amino acids and phytonutrients. High in magnesium and zinc, iron, calcium, beta-carotene and omega 6 fatty acids, cacao powder provides these and other nutrients so as that your body and skin perform at peak levels. While applied topically, these components can shield the skin against environmental stressors, feed the skin, and build a healthy glow. This one goes for consuming cacao internally. The upper the cacao percentage (with minimal sugar and other additives) the upper the proportion of flavanols are often found. Flavanols be present plant-derived antioxidants in cacao which support maintain the elasticity of the blood vessels within our body. These support blood flow, maintaining elasticity of arteries and veins, protect the middle and keep the skin looking vibrant and youthful. Externally, cacao delivers complex nutrients for healthy skin, visibly improving texture, tone and radiance. Antioxidants extremely nourish the skin, leaving your face healthy and rejuvenated.

**Kingdom :** Plantae  
**Subkingdom :** Tracheobionta  
**Superdivision :** Spermatophyta  
**Division :** Magnoliophyta  
**Class :** Magnoliopsida
Subclass : Dilleniidae  
Order: Malvales  
Family : Sterculiaceae  
Genus : Theobroma L  
Species : Theobroma cacao L.

5.1. Nutrients:

Raw cocoa beans contain methylxanthines (about 4%; Kadow and others 2013). Theobromine (3,7-dimethylxanthine) is the major alkaloid of cocoa (2% to 3%). Caffeine (1,3,7-trimethylxanthine) is found only in small amounts (0.2%), and theophylline as traces.

6. EXTRACTION METHOD:

Plants contain an honest range of active compounds like lipids, phytochemicals, pharmaceuticals, flavours, fragrances, and pigments. Extraction is the first step within the utilisation of such bioactive compounds and thus is performed in virtually all studies of natural plant compounds. Before extraction, fresh plant materials are typically rinsed with water, dried at temperature, and ground to induce a powder. The common method for extracting anti-cancer compounds from plants is solvent extraction. As stated by Dai and Mumper (2010), solvent extractions are the foremost commonly used procedures for preparing extracts from plant materials thanks to their easy use, efficiency, and wide applicability; the crop from chemical removal be determined by on the solvent type, of which there are varying polarizations, and extraction time and temperature, sample-to-solvent ratio, and sample chemical composition and physical characteristics.

6.1 Uses:

- It contains healthy omega-6 fatty acids for a healthy dose of skin soothing rejuvenation.
- While an increase in circulation stimulates new blood flow to the surface of the skin.
- It keeps skin healthy and glowing.

7. FORMULATION TABLE:

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dead sea mud</td>
<td>3 gm</td>
</tr>
<tr>
<td>2</td>
<td>Iron powder.</td>
<td>8 gm</td>
</tr>
<tr>
<td>3</td>
<td>Glutathione</td>
<td>4 gm</td>
</tr>
<tr>
<td>4</td>
<td>Olive oil.</td>
<td>2 ml</td>
</tr>
<tr>
<td>5</td>
<td>Bayberry wax.</td>
<td>3 gm</td>
</tr>
<tr>
<td>6</td>
<td>Vitamin C.</td>
<td>1 gm</td>
</tr>
<tr>
<td>7</td>
<td>Vitamin E</td>
<td>1 gm</td>
</tr>
<tr>
<td>8</td>
<td>Collagen.</td>
<td>2 gm</td>
</tr>
<tr>
<td>9</td>
<td>Cupuacu butter.</td>
<td>3 gm</td>
</tr>
<tr>
<td>10</td>
<td>Propylene glycol.</td>
<td>6 ml</td>
</tr>
<tr>
<td>11</td>
<td>Phenoxyethanol.</td>
<td>0.8 ml</td>
</tr>
<tr>
<td>12</td>
<td>Squalane.</td>
<td>2 ml</td>
</tr>
<tr>
<td>13</td>
<td>Butanediol</td>
<td>4 ml</td>
</tr>
<tr>
<td>14</td>
<td>Cocoa seed extract</td>
<td>4 gm</td>
</tr>
<tr>
<td>15</td>
<td>Beta-glucan</td>
<td>2 gm</td>
</tr>
<tr>
<td>16</td>
<td>Alpha hydroxy acid.</td>
<td>5 ml</td>
</tr>
</tbody>
</table>

8. METHODOLOGY:

In step, adopt the mud sea mud and there's the ratio of ferromagnetic native ore in step with 0.1: 0.9 ~ 0.9: 0.1
mix, then wet granulation is meted out, drying and screening, grain diameter is formed to manage within the scope of 60 order to 200 orders, by stearates (as magnesium stearate, aluminium stearate, sodium stearate etc.), Surface coating is disbursed to particle surface again, prevent granule undue agglomeration, be conducive to next step formula allotment simultaneously.magnetic mud the first step prepared or powder stuff granular and vegetable oil/artificial oil adipocere, emulsifying agent, plant extract/functional component, essence, antiseptic, antioxidant are per following proportions magnetic mud mask.

8.1. Procedure:

1. Mainly comprise following flow process:
2. By deployed magnetic mud film or the fill of powder film and in packaging the moderate Magnet of placement one piece of magnetic, for the removing of magnetic mud film or powder film.
3. By oils and fats and emulsifying agent heating melt.
4. The oils and fats that magnetic mud or powder particles are added fusing and emulsifying agent, Keep agitation is even.
5. Be cooled to less than 50 degree, add plant extract, functional component, essence antioxidant and antiseptic.
6. Still aging, being up to the standards point is filled to container.

9. EVALUATION:

pH: The pH of the Magnetic face mask formulation was determined by using digital pH meter. One gram of face mask was taken and dissolved in 100 mL distilled water and measurement of pH was done in triplicate and average value was calculated.

Viscosity: Brookfield viscometer was used for the measurement of viscosity of the prepared Magnetic face mask. The Brookfield viscometer existed rotated at 100 rpm, spindle no.6. Each reading was taken after equilibrium was attained by the sample at the end of two minutes. The study was repeated three times and average value is calculated.

Spreadability: It was determined by wooden block and glass slide apparatus. Weights of about 20 g were added to the pan and the time was noted for upper slide (movable) to separate completely from the fixed slides. Spreadability was then calculated by using the formula, \[ S = \frac{M \times L}{T} \]
Where, \( S \) = Spreadability, \( M \) = Weight tide to upper slide, \( L \) = Length of glass slide, \( T \) = Time taken to separate the slide completely from each other. The therapeutic efficacy of a formulation also depends upon its value. tide to upper slide, \( L \) = Length of glass slide, \( T \) = Time taken to separate the slide completely from each other. The therapeutic efficacy of a formulation also depends upon its value.

Skin irritation test: Test for irritation was performed on human volunteers with their consent. 5 volunteers was selected and 1.0 g of formulated gel was applied on an area of 2 square inch to the back of hand. The volunteers were observed for lesions or irritation.

9.1. Evaluation Parameters

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Parameters</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Colour</td>
<td>Brown</td>
</tr>
<tr>
<td>2.</td>
<td>Odour</td>
<td>Pleasant</td>
</tr>
<tr>
<td>3.</td>
<td>Consistency</td>
<td>Semi-Solid</td>
</tr>
<tr>
<td>4.</td>
<td>pH</td>
<td>5.6</td>
</tr>
<tr>
<td>5.</td>
<td>Spreadability</td>
<td>6.72 g.cm/sec</td>
</tr>
<tr>
<td>6.</td>
<td>Skin irritation test</td>
<td>Non-irritant</td>
</tr>
</tbody>
</table>

10. CONCLUSION:

Magnetic face mask are used to stimulate blood circulation, because magnet have the ability to improve blood circulation in skin which rejuvenates the muscles and helps to maintain the elasticity of the skin and remove dirt from the skin pores the advantage of magnetic face mask in cosmetics is there reduce allergic reaction and time tested usefulness of many ingredients. Thus in the present work suggests applications of Magnetic face mask over available face mask further optimization studies required on this to find useful benefits of magnetic face mask on human use as cosmetic product.
REFERENCE:


