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A Review on Herbal Bath Bomb

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Abstract: *Fungal skin infections are a prevalent health issue that requires investigation into safe and efficient alternative remedies. Herbal components are a good option for cosmetics formulations because they have historically shown antifungal capabilities. Building on this idea, the research seeks to create a novel antifungal herbal bath bomb by utilizing the medicinal properties of plants. Bath bombs consist of a blend of moist and dry elements, including a weak acid and a bicarbonate base, these un reactive elements react vigorously in water, providing effervescence that aids in detoxing pores and skin, promoting a refreshed experience. The formulation process involved careful selection and blending of dry and liquid ingredients to achieve the desired texture, fragrance, and skin nourishing properties. Fungal skin infections are a common health issue that requires research into safe and effective remedies. Herbal components are a good option for cosmetics due to their antifungal properties. This research aims to create a novel antifungal herbal bath bomb using plants medicinal properties. Bath bombs consist of moist and dry elements, including a weak acid and bicarbonate base, which react vigorously in water, providing effervescence for detoxing pores and skin. The project aims to create a unique and effective herbal bath bomb*

Keywords: Herbal Cosmetic, Antifungal Properties, Herbal Bath bomb, Moisturizing Benefits, Detoxify Skin, Herbs, Effective remedies

I. INTRODUCTION

Cosmetics, derived from the Greek word for 'adorn', are items used for cleansing, beautifying, selling elegance, or changing appearance. They include skin care creams, lotions, powders, perfumes, lipsticks, eye makeup, coloured lenses, hair colours, Soap, and more. Herbal cosmetics are growing in demand in the international market, offering a variety of natural beauty products. Beauty education is gaining interest in herbal Cosmeceuticals due to their variety and low effects. Enhancing the effectiveness of these cosmeceuticals in the industry. Bath bombs are a luxurious self-care treat with soothing aromas, pampering ingredients, and a luxurious fizz, designed to detoxify and hydrate with minerals, botanicals, and essential oils.Bath bombs are compacted mixtures of moist and dry ingredients, used for refreshing and aromatic tubs. They contain a weak acid and bicarbonate base, which react vigorously in water to provide effervescence, detoxify skin, and refresh. These elements combine to create a fizzing sensation, clean, deodorize, restore pores and skin, and strengthen

IMAGE NO.1 BATH BOMB

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APPLICATIONS OF BATH BOMB:

1. Bath bombs are known to be beneficial for skin health: A bath bomb contains emollients and softeners that moisturize and indulge skin, making it soft, supple, and silky. It cleanses and pampers the skin, resulting in a velvety, sinuous, and youthful appearance.

2. Bath bombs are a natural and vegan-friendly option for skincare and personal care: Bath bombs are all-herbal, chemical-free, and non-irritant treatments that protect and soothe the skin without harsh irritants, enhancing its softening properties.

3. Bath bombs are known to possess healing properties: Bath bombs, often containing sodium bicarbonate and citric acid, create a fizzing sensation, clean, deodorize, restore skin, and strengthen blood vessels, resulting in healthier, more youthful skin.

4. Bath bomb scents serve a specific purpose: Bath bombs are known for their aromatherapy benefits, as their heady fragrance lingers on skin and remains with the body throughout the day, waking up worn-out skin and promoting sleep.

5. Bath bombs are a popular method used to create an atmosphere in various settings: Bath bombs create a luxurious and opulent atmosphere by fizzing and releasing pleasant scents when dropped into the tub, turning everyday experiences into delightful experiences.

Let's explore how to make bath bombs work for you if you're without a tub:

SHOWER AROMATHERAPY:

Luxurious bath bombs can be used in the shower to create a spa-like experience at home. Hang the fizz in a mesh bag or tie it to the shower head, and steam from the warm shower activates the bath soak, releasing its aromatic fragrance.

FOOT SOAK:

Fill a basin with warm water and add your fizzing treat. Soak your feet, allowing the minerals, botanicals, and essential oils to work their magic. Your feet will feel refreshed and rejuvenated.

ROOM FRAGRANCE:

Crush a bath bomb and mix dry ingredients in warm water. The warmth releases the fragrance, creating a refreshing atmosphere. This creates a scented haven, allowing you to unwind and find tranquility in your space, eliminating stale odours.

RELAXING FOOT SCRUB:

Mix a bath bomb with a carrier oil like coconut or olive oil to create a fragrant foot scrub. This not only adds moisturizing properties but also evenly distributes the bath bomb's lovely scent.

Massage the crushed bath bomb onto your feet to exfoliate and soften your skin, removing dead skin cells and leaving your feet feeling soft and revitalized. The aromatic fragrance creates a soothing ambiance.

AROMATIC YOGA EXPERIENCE:

Create a sensory oasis in your yoga or meditation routine by adding a bath bomb to your routine. Fill a bowl or basin with warm water and drop the bath bomb, observing its color and scent disperse. The scent of the bath bomb-infused water provides a calming effect, enhancing focus and enhancing the overall experience of your routine, as soon as it hits the water

IMAGE NO. 2 BAKING SODA

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ROLE IN BATH BOMB:

Baking soda is a key ingredient in bath bombs that makes them fizz in water **Reaction with Citric Acid**: Baking soda is alkaline, while citric acid is an acid. When these two ingredients come into contact with water, they react to produce carbon dioxide gas, which causes the bomb to fizz. **Dissolution**: Baking soda dissolves quickly in water, and the positively charged sodium breaks apart from the negatively charged bicarbonate.

Amphoteric: Baking soda is amphoteric, meaning it reacts with both acids and base

IMAGE NO.3 CITRIC ACID

ROLE IN BATH BOMB:

Citric acid is a key ingredient in bath bombs that reacts with baking soda to create a fizzing action when the bath bomb hits the water:

Reaction: Citric acid is a weak acid and baking soda is a weak base, and when they react, they create carbon dioxide bubbles. This is an acid-base reaction.

IMAGE NO.4 CORN STARCH

ROLE IN BATH BOMB:

Cornstarch has multiple roles in bath bombs, including:

Binder: Cornstarch helps bind the ingredients together, which helps the bath bomb keep its shape.

Filler: Cornstarch helps ensure that the bath bomb fizzes properly.

Slows reaction: Cornstarch slows down the reaction between the citric acid and baking soda, which can make the bath experience longer and more luxurious.

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Skin-soothing: Cornstarch can leave the skin feeling silky and smooth.
Fragrance binder: Cornstarch helps retain scents.
Hardener: Cornstarch can act as a hardener [Thickening agent], absorbing moisture without drying the skin.
Cornstarch is also non-irritating and has a fine texture. However, cornstarch can absorb moisture, which can make the skin more prone to fungal infections

IMAGE NO.5 EPSOM SALT

ROLE IN BATH BOMB:
Epsom salt is a key ingredient in bath bombs because it's rich in magnesium sulphate, which can help relieve muscle aches and pains. Epsom salt is also believed to have other health benefits, including:
Relaxation: Epsom salt can help relax the nervous system.
Detoxification: Epsom salt can help flush out toxins and support the liver.
Skin health: Epsom salt can help soften the skin.
Sleep: Epsom salt can help improve sleep quality.
The amount of Cornstarch and Epsom salt affects the reaction rate of Bath bombs. The faster a bomb dissolves, the more CO2 it produces, causing a faster response. The chemical reaction between water, sodium bicarbonate, and citric acid produces fizz and bubbles.
$H2O + C6H8O7 + NaHCO3 \rightarrow Na3C6H5O7 + H2O + CO2$
Water + Citric acid + Baking soda→ Sodium citrate + Water + Carbon dioxide
Citric Acid and Sodium Bicarbonate react with water to form sodium salt, forming bubbles and forming perfume. This creates foaming agents, reducing skin irritation. Herbal elements like Neem, Vetiver, Aloe vera, Amla, and Guduchi are used in bath bombs.

HERBAL INGREDIENTS:
1.Neem - 15g
2.Aloe vera- 10g
3.Guduchi- 04g
4. Amla-10g
5.Coconut Oil- 200g
6. Honey

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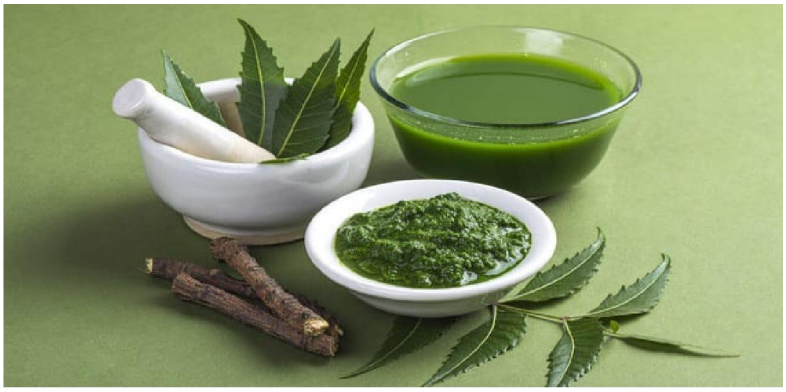

IMAGE NO.6 NEEM

FAMILY: Neem is a member of the Mahogany family, Meliaceae.

ROLE IN BATH BOMB:

Neem, a member of the Meliciaceae family, is used to treat skin issues like wrinkles, thickening, water loss, and erythema, providing antimicrobial and moisturizing benefits.

Neem, used extensively in Eastern traditions to support immunity, bacterial balance, oral health, and inflammatory responses, but best known for its nourishing properties for healthy nails and skin.

making it particularly beneficial for those with acne or other skin irritations. Moreover, neem may assist itchy, dry skin and promote healing.

IMAGE NO.7 ALOEVERA

FAMILY: The botanical name of Aloe vera is Aloe barbadensis miller. It belongs to Asphodelaceae (Liliaceae) family

ROLE IN BATH BOMB:

Aloe vera, a Liliaceae plant, is used for beauty purposes due to its healing properties, moisturizing and softening properties, and antioxidant activity. Its amino acids, vitamins, and folic acid help prevent early ageing, microbial deterioration, and dryness.

Aloe vera has an instant cooling effect on the skin, which can help sensitive skin that is prone to sunburn or insect bites.

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IMAGE NO.8 GUDUCHI

FAMILY: Tinospora cordifolia commonly known as Guduchi or Giloy belongs to Menispermaceae family of plants.

ROLE IN BATH BOMB:

Guduchi, also known as hearted moonseed, is a medicinal plant found in India, Bangladesh, Myanmar, and Sri Lanka. Itis an herb with many medicinal properties that may help with a variety of issues.

It is used for common cold, skin diseases, wounds, diabetes, hypertension, jaundice, and rheumatism. Guduchi also has anti-allergic and anti-inflammatory properties, with active compounds like alkaloids, diterpenoid, lactones, and glycosides.

IMAGE NO. 9 AMLA

FAMILY: Amla belongs to the family Phyllanthaceae

ROLE IN BATH BOMB:

Amla is used in bath bombs for its fragrance and other benefits:

Fragrance: Amla fragrance oil can add a subtle aroma to bath bombs.

Antioxidant properties: Amla oil has antioxidant properties and is used in anti-aging products.

Nourishes hair: Amla oil moisturizes the scalp and helps with hair loss.

Absorbs well into skin: Amla oil has good moisturizing and water-retaining properties. It prevents graving and strengthens hair follicles. Amla's Vitamin C content, tannins, and minerals like Calcium, Phosphorus, Iron, and Amino acid contribute to hair growth.

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IMAGE NO.10 COCONUT OIL

ROLE OF COCONUT OIL IN BATH BOMB:

Coconut oil can play a number of roles in bath bombs, including:

Moisturizing: One of the most obvious benefits is coconut oils moisturising properties. Coconut oil can moisturize and soften skin, and help restore its natural pH levels.

Binding: Coconut oil acts as a binding ingredient to hold the bath bomb together without activating it.

Nourishing: Coconut oil is rich in antioxidants and fatty acids, which can nourish and protect dry skin.

Anti-aging: Coconut oil can help improve skin elasticity and act as an anti-aging agent.

IMAGE NO.11 HONEY

ROLE IN BATH BOMB:

Honey can play several roles in herbal bath bombs, including:

Moisturizer: Honey can moisturize the skin.

Antibacterial: Honey can have antibacterial properties.

Ingredient: Honey can be an ingredient in herbal bath bombs.

DISADVANTAGES OF HERBAL BATH BOMB:

Skin irritation: Even "natural" ingredients can cause skin irritation, especially if you have sensitive skin or allergies. For example, some essential oils and sea salt can dry out your skin, and fragrances can trigger respiratory allergies.

Redness and rashes: Soaking in hot water for a long time with fragrances and dyes can cause red, itchy rashes.

Vaginal irritation: Sitting in the bath can cause vaginal irritation for some women.

Additive buildup: Additives like dye and glitter can be hard to remove, which can make skin irritation worse.

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PREPARATION OF POLYHERBAL OIL:

Neem, Guduchi, Aloevera, and Amla leaves are combined with coconut oil, boiled for 20 minutes, stored, and strained.

PROCEDURE:

First all ingredients were weighed, sodium bicarbonate (50g), citric acid (25g) and corn starch (13.5g) are weighed and mixed well.

↓

Add Polyherbal oil and colour.

↓

Add 2 grams of honey, add perfume / fragrance.

↓

Mix all the ingredients; don't add water, which will accelerate the neutralization reaction.

↓

Make the mixture slightly moist.

↓

Freeze the finished mixture for 30-55 minutes.

↓

Carefully remove of the bath bomb from the mold.

EVALUATION OF HERBAL BATHBOMB:

1. Physical Appearance:

The three samples have been arranged and their physical appearance has been assessed.

2. Determination of pH:

The bath bomb pattern was combined with 500ml distilled water and stored for 24 hours. Samples without cornstarch and Epsom salt were evaluated, and their pH was measured and compared.

3. Determination of effervescence time:

A bath bomb is placed in a beaker with 500ml of distilled water, and bubbling time is completed when a clean blend is achieved.

4. Skin inflammation take a look at:

Apply bath bomb powder samples to the human subject's upper arm, mark with a blue-black marker, and observe for 24 hours to detect any reactions.

5. Study of water temperature:

Thermometer is used to measure the temperature of various bath bomb samples, recording and evaluating their precise temperature.

6. Determination of microbial activity:

The microbiological assay was conducted using a cup plate method, which involved inoculating a nutrient agar plate with an organism, dividing it into four parts, creating cavities with antibiotic liquid and fashionable solution, and incubating at 37^0C for 24 hours.

7. Stabilty testing:

Bath bomb samples were stored at room temperature for two weeks, and any modifications were noted.

II. RESULTS AND DISCUSSION

The study aimed to formulate and compare a natural derived Bath bomb made from poly herbal oil containing various herbs like Amla, Vetiver, Guduchi, Aloevera, and Neem. The bath bomb did not cause skin infections or microorganism growth during testing. The formulation had a pH of 8.7 and produced a fizzing sensation.

Now a days the cosmetic chemistry laboratories explore to formulate useful and interesting product which is beneficial for humankind, Bath bomb is also one of them product. The Successful development of herbal medicated Bath bomb is an icing on the cake for the Mankind and Cosmetic industry as well.

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III. CONCLUSION

The study reveals the antifungal properties of a herbal bath bomb, which effectively combats common fungal strains. This research underscores the potential of herbal-based hygiene products in combating fungal skin conditions. The bath bomb's natural and effective nature suggests further exploration and development in herbal skincare products.

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