

Formulation And Evaluation of Herbal Bath Bomb

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Abstract-

Bath bombs are a popular way to prepare a revitalising, soothing, and fragrant bath. It is a solid mixture of a weak acid and a strong base that does not react in dry conditions but strongly reacts with water to form salt, water, and carbon dioxide. The main aim of this research work is to prepare the medicated bath bomb and evaluated for the efficacy.

The herb used in the preparations by adding plant leaf extract of cinnamon and turmeric that leaf extract has antifungal activity. Commonly bath bomb is prepared with Citric acid, Sodium Bicarbonate, Corn starch, Epsom salt, various natural colors etc. Due to the reaction of citric acid and sodium bicarbonate in presence of water, CO₂ gas forms and the fragrance present in formulation is evolved with it. The formulated bath bomb are evaluated for the various parameters like Effervescent time, Skin patch test, pH, Flow Property, bulk density, carre's index and microbial study. The results shown that all formulation gave satisfied results.

Bath bomb is preparation generally used for refreshing, relaxing and fragrant bath. The name looks scary but the formulation is quite interesting. Commonly bath bomb is prepared with Citric acid (C₆H₈O₇), Sodium Bicarbonate (NaHCO₃), Corn starch, MgSO₄ (Epsom salt), various natural colors etc. Due to the reaction of citric acid(C₆H₈O₇) and sodium bicarbonate (NaHCO₃) in presence of water, CO₂ gas forms and the fragrance present in formulation is evolved with it. So basically, bath bomb is a formulation made for the fragrant and relaxing bath. Introduction of therapeutic action like antiseptic and antifungal action in bath bomb is novel idea. Addition of betel leaves (piper betel) extract to the formulation give it antifungal and antibacterial property, turmeric gives antiseptic property, MgSO₄ (Epsom salt) relaxes the muscles.



Published in IJIRMP (E-ISSN: 2349-7300), Volume 12, Issue 3, May- June 2024

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INTRODUCTION: [1,2,3]

Bath bomb:

It is a solid preparation of weak acid and strong base which is non-reactive under dry condition but when it is in contact with water, it reacts vigorously and form salt, water and carbon dioxide.

E.g., citric acid is reacted with sodium bicarbonate in presence of water.

Cosmetics is a Greek phrase which means 'adorn' (addition of something ornamental to someone or a thing).

FD&C act defines cosmetics as articles meant to be rubbed, poured, sprinkled or sprayed on, introduced into or in any other case carried out to human frame for cleansing, beautifying, selling elegance or changing the look. Cosmetics encompass pores and skin care creams, lotions, powders, perfumes, lipsticks, fingernail and toenail polish, eye and facial makeup, colored touch lenses, hair colors, hair sprays, toddler merchandise, tubtub oils, bubble tubtub, tubtub salt and plenty of different sort of merchandise.

Herbal cosmetics have developing call for within side the international marketplace and are a useful present of nature. There are a huge variety of natural beauty merchandise to meet your beauty regime. The herbs utilized in beauty education have sorts of residences like antioxidant, anti-inflammatory, antiseptic and antibacterial and so on.

Herbal Cosmeceuticals are gaining high-quality interest now a days because of their huge variety of availability and less facet effects .There are good sized flora and herbal elements to be had commercially as a cosmeceuticals.

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Bath bomb is a compacted combination of moist and dry elements molded into numerous shapes and dried. It is a education typically used for refreshing, enjoyable and aromatic tubtub. The call appears horrifying however the components is pretty interesting. Primary elements of tubtub bombs are a weak acid and a bicarbonate base. These are unreactive while dried however react vigorously while dissolved in water to supply effervescence which facilitates in detoxing of pores and skin and easy out dryness and experience refreshed.

These elements integrate to create that fizzing sensation. More than that they clean, deodorize and restore ores and skin and make stronger blood vessels.

Some of the simple elements are baking soda, citric acid and corn starch. These paintings collectively to shape tubtub bomb and make it fizz in water. Sodium bicarbonate(NaHCO_3) is the simple factor in bath bomb ,and different merchandise made to supply fizz and foam. It is usually a white crystalline powder or Granule.

1.Bath Bombs Are Good For SkinA tubtub bomb provides emollients and softeners to tubtub water that moisturize and indulge your pores and skin. No be counted what your pores and skin type, the useful elements in tubtub bombs go away it soft, supple, and silky., it'll cleanse your pores and skin, however the elements interior may also pamper and soothe it. Your pores and skin will experience velvety, sinuous, and youthful.

2.Bath Bombs Are Natural And Vegan FriendlyUnlike different tubtub merchandise that depend upon a chemical makeup, tubtub bombs are all-herbal,

chemical unfastened tubtub time treats. There isn't a any harsh irritants that might worsen the pores and skin. Instead, they're protecting and pacifying with outstanding pores and skin softening residences.

3. Bath Bombs Have Healing PropertiesAlmost all tubtub bombs incorporate sodium bicarbonate and citric acid. These elements integrate to create that fizzing sensation for which tubtub bombs are well-known for. More than that, though, they clean, deodorize, and restore pores and skin, and make stronger blood vessels. These major elements leaves with healthier, more youthful searching pores and skin.

4. Bath Bomb Scents Have a PurposeMany humans recognize tubtub bombs for his or her aromatherapy blessings. The heady fragrance lingers at the pores and skin and remains with all day. It wakes up worn-out pores and skin, wakes up a sleepy mind, and facilitates to stand the demanding situations of the day.

5. Bath Bombs Create an AtmosphereBath bombs assist to create a surroundings of luxurious and opulence. When it's miles dropped into the tub, it fizzes and releases pleasant scents. Bath bombs are outstanding bubbling balls of marvel that flip an everyday tubtub right into a glad experience.

Drug And Excipients Profile

Active ingredients:

1. **Baking Soda (Sodium Bicarbonate)**^[4,5]

Function: Baking soda serves as the primary alkaline component in bath bombs, reacting with citric acid to produce carbon dioxide bubbles, creating the fizzing effect.

Properties: Alkaline, mild abrasive, skin-soothing. Benefits: Helps to cleanse and soften the skin, balances pH levels, and promotes relaxation.

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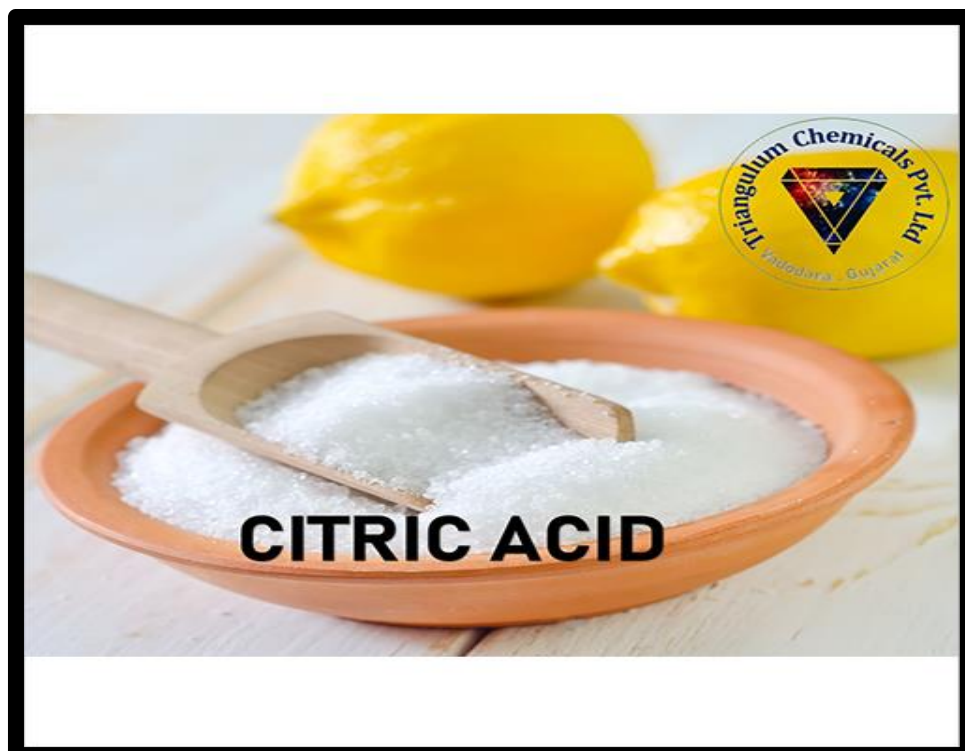


2. Citric Acid: ^[6,7]

Function: Citric acid acts as the acidic component in bath bombs, reacting with baking soda to produce carbon dioxide gas, resulting in fizzing.

Properties: Acidic, antioxidant, exfoliating.

Benefits: Enhances the fizzing action, helps to exfoliate dead skin cells, and contributes to a refreshing bathing experience.



3. Epsom Salt (Magnesium Sulfate):^[8,9,10]

Function: Epsom salt provides a source of magnesium and sulfate ions, which can be absorbed through the skin.

Properties: Hygroscopic, muscle-relaxant, anti-inflammatory.

Benefits: Helps to relax muscles, alleviate tension, reduce inflammation, and promote overall well-being.



Excipients:

4. Cornstarch or Arrowroot Powder: ^[10,11,12]

Function: Cornstarch or arrowroot powder serves as a binder and filler in bath bombs, helping to absorb excess moisture and improve texture.

Properties: Absorbent, fine texture, non-irritating.

Benefits: Enhances the consistency of the bath bomb mixture, prevents clumping, and provides a smooth finish.



5. **Carrier Oils:** [21,22,23]

(e.g., Coconut Oil, Almond Oil):

Function: Carrier oils act as emollients and moisturizers in bath bombs, helping to soften and nourish the skin.

Properties: Emollient, moisturizing, nourishing.

Benefits: Hydrates the skin, improves skin barrier function, and enhances the spreadability of essential oils.



Methodology:^[16,17,18]

PREPARATION OF BATH BOMB:

A)

1. Weigh all dry ingredients
2. Add them to dish with stirring

B)

1. Take water in beaker and add turmeric in it with stirring
2. Add rose water in water containing beaker Mix liquid in B to A slowly to make it slightly moist; do not add too much quantity of water what will accelerates the neutralizing reaction. Make the mixture slightly moist only. Add the prepared mixture to mold with desired shape and freeze it for 30 to 45 min. Remove the bath bomb carefully from the mold.

Formulation Table. 1

Sr.no	Ingredients	Quantity	Role
1	Sodium bicarbonate	24.6gm	Weak base
2	Citric acid	6.1gm	Strong acid
3	Corn starch	12gm	Binder
4	Magnesium sulphate	6.2gm	Muscle relaxant
5	oil	6.2gm	Antifungal

EVALUATION: ^[12,13,14]

For Evaluation: we Perform –

1. Physical appearance.

2. pH Determination.
3. Effervescent Time.
4. Skin irritation Test.

EVALUATION TEST:

Effervescent time:

A single bath bomb is placed in a tub containing 20 lit of water at 20 °C+1 °C.

Whenever a clear solution without particles is obtained effervescence time has finished. The mean of three measurements of each formulation is to be reported

Flow Rate:

Flow rate of a powder has been defined as the rate at which the particular mass emerges through the orifice of funnel of a suitable diameter.

RESULT:

Zone of inhibition of ethyl acetate extract of betel leaves (piper betel) on *Candida albicans* was observe more than standard preparation of Fluconazole. Bath bomb containing the ethyl acetate extract of betel leaves was prepared and evaluated successfully.

FORMULATION:

The Herbal Medicated bath bomb had been successfully formulated.

pH test:

pH of solution containing bath bomb is measured.

Skin patch test:

Sr. No.	Formulation	Skin patch test
1	A	No irritation
2	B	No irritation
3	C	No irritation

CONCLUSION:

Because bath bombs (cinnamon oil) limit the growth of germs and fungi, they have strong antibacterial and antifungal activity and can be utilized for health benefits. zone of inhibition research against gram-positive bacteria Gram-negative bacteria, including *S. aureus* A. E.

Coli exhibit favorable results as, as the data discuss, both species obtain a zone of inhibition against varying concentrations.

The preparation against *S. aureus* was observed to create a zone of inhibition that was substantially higher than the equivalent inhibition zone produce by *E.coli*. bath bomb preparation provides relaxing bath with therapeutic activity.

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