IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 4, December 2025
Impact Factor: 7.67

# Formulation and Evaluation of Herbal Soap

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**Abstract:** *Most of the commercial soaps contain chemicals that can be harmful to the skin and using a natural herbal soap can be a good alternative. Herbal soaps are made using natural herbs and ingredients that are healthier and beneficial for the skin and are less likely to cause any damaging effect. Some of the natural soap manufacturers also use aroma therapy and herbal treatments to offer the best skin treatment solution for your skin. Made of rare herbs and 100% natural ingredients, herbal soaps have found to be highly beneficial for the skin. These are characteristically different from soaps made from divalent metals such as magnesium, calcium, aluminum or iron which are not water soluble, Soaps are use for laundry and cleaning purposes, though the used of calcium soap in the formulation of animal feed have been reported.It is generally known that soap is produced by the saponification of a triglyceride (fat or oil). In the process the triglyceride is reacted with a strong alkali such as; potassium or sodium hydroxide to produce glycerol and fatty acide salt.*

**Keywords**: Soap, Herbal plant, curry leaves

## I. INTRODUCTION

Plant, which have one or more of its parts having substance that can be used for treatment of disease, are called medicinal plant. Medicinal component derived from plants are widely famous due to their safety, easy availability and low cost. Herbal medicines may include whole parts of plant or mostly prepared from leaves, root, bark, seed and flower of plant. They are administered oraly, inhaled or directly applied in the skin. medicinal herbs are more significant to the health .The medicinal value of these plant lies in bioactive phytochemical constituents that produce definite physiochemical action on the human body. Some of the most important bioactive phyto chemical constituents are alkaloids, essential oil, flavonoids, tannins, terpenoid, saponins, phenolic compound and many more. These civilization and is natural compound formed the foundation of modern prescription drug as we know today.

### Herbal Soap

Herbal soap preparation is a medicine it contain antibacterial, anti-ageing anti- oxidant, anti- septic properties which mainly uses of part of plant like seeds, rhizomes, nuts and pulps to treatment for an injury or disease or to achieve health. Herbal soap do not contain the artificial colours, flavours, fluorides etc., when compared to the content of commercial soap. Herbs are the natural products mostly found in the treatment of almost all diseases and skin problems owing to their high medicinal value, cost effective ness, availability and compatibility Herbal soap preparation is a medicine or drug. it contain antimicrobial or anti oxidation property, agent Which are mainly use of part of plant such as like leave, stem, roots and fruits To treatment for a skin disease or to achieve To good health. A soap manufactory was uncovered in the ruins at Pompeii, and the Greek physician Mr. Galen wrote about soap in the second century. It's hard to believe that as recentas the last century, soap had to be labeled as to it's use. Also during this time, soap fell out of popularity as some modest Victorians believed "soap baths" as disgraceful and sinful.Some of the famous brand name soaps that you buy today are actually not soap at all Nowhere on the packages does the word "soap" appear, rather the products are labeled"beauty bars" or "deodorant bars". They are synthetic detergents. These "beauty bars" also contain chemical components called "builders" that increase the efficiency of the soap.Most of the money you pay for commercial bath products covers the costs of advertising, packaging and promoting the products, not for what's in them. You can make your own bath products at home and package them elegantly for fraction of the cost of store bought wares. Another advantage is knowing what's in your home made products many store bought products, including soaps, are not required to list their ingredient.

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**SOAP**

Soap is common cleansing agent well known to everyone. Many authors defined soap indifferent ways. Warra, 19 regarded it as any cleaning agent, manufactured in granules, bars, flakes, or liquid form obtained from by reacting salt of sodium or potassium of various fatty acids that are of natural origin (salt of non-volatile fatty acids).Soap can also be said to be any water-soluble salt of fatty acids containing eight or more carbon atoms. Soaps are produced for varieties of purpose ranging from washing, bathing, medication etc.The cleansing action of the soap is due to the negative ions on the hydrocarbon chain attached to the carboxylic group of the fatty acids. The affinity of the hydrocarbon chain to oil and grease, while carboxylic group to water is the main reason soap is being used mostly with water for cleaning purposes.In addition to basic raw materials, other substances are added to the composition in order to improve its application. For examples soap made for medicinal purposes other medicinal importance ingredients are added to it to produce medicated soaps.In addition to potassium and sodium salt, other metals such as calcium, magnesium and chromium are also used to produce metallic insoluble soap that are not used as cleaning agents, but are used for other purposes.Other properties of the soap such as hardness are function of the metallic element present in the salt. For example soap made up of Sodium salts shows little hardness compare to potassium salts soaps, provided the same fat or oil is used in both cases.

These are characteristically different from soaps made from divalent metals such as magnesium, calcium, aluminum or iron which are not water soluble, Soaps are use for laundry and cleaning purposes, though the used of calcium soap in the formulation of animal feed have been reported.It is generally known that soap is produced by the saponification of a triglyceride (fat or oil). In the process the triglyceride is reacted with a strong alkali such as; potassium or sodium hydroxide to produce glycerol and fatty acide salt.

**Types of herbal soap**

Depending on the form, usage and application, the skin cleansing products can be broadly categorized into following five types

- Toilet Soaps
- Body Soaps
- Face Wash
- Cleansing Milk
- Cleansing Cream

For getting maximum benefit from your skin care regiment, it is important that you know your skin type. There are different types of skin and hence you should take care of your skin accordingly. The effective way to treat your skin is to know your skin type and what kind of nutrients the skin needsd act accordingly.

Skin can be divided into different types according to its texture. The different types of skin are…..

- Normal skin
- Dry skin
- Oily skin
- Combination

**Ingredient's Profile:**

| S.no | Plant name | Uses | Picture |
|---|---|---|---|
| 1 | Curry Leave | Curry leaves is high in antioxidant<br>Acne ,pimples ,itching |  |

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| | | | |
|---|---|---|---|
| 2 | Tulsi (Ocimum sanctum) | Helps clear out the skin of blemishes and acne<br>Skin contains high levels of vitamin C. |  |
| 3. | Aloe vera | Helps to moisturize the skin. Reduces infection and acne |  |
| 4. | Turmeric | Deals with Dull skin. Reduces dark Circles. |  |
| 5 | Neem oil | Nourishes skin.<br>Treat Fungal Infections. Treat acne. |  |

Table no. 1: plant profile

**Material and Method:**

Material detail's- All the ingridients are used in this formulation have herbal grade. The ingridiets are collected from different sources. Curry Leave , Tulsi , Aloe vera , Turmeric , are procured from the medicinal garden of Charak institute of pharmacy. Neem oil purchased from the general store.

**Method:**

**METHODOLOGY**

| Sr. no. | Material |
|---|---|
| 1. | Curry leaves |
| 2. | Tulsi leaves |
| 3. | Turmeric |
| 4. | Neem oil |
| 5. | Alovera |

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| | |
|---|---|
| 6. | Glycerine soap base |
| 7. | Sodium lauryl sulphate |

**Formulation of herbal soap:-**

| Sr. no. | Ingredients | Quantity |
|---|---|---|
| 1. | Curry leave | gm |
| 2. | Tulsi leave | gm |
| 3. | Turmeric | gm |
| 4. | Neem oil | ml |
| 5. | Alovera | gm |
| 6. | Glycerine soap base | gm |
| 7. | Sodium laouryl sulphate | gm |

Ingredients:- Table no. 3

Procedure of soap:-

1. Take the 22 gm soap base in a beaker.
2. Adjust and maintain the temperature for providing heat to the soap base via using water bath.
3. After heating a soap base will get converted into the liquid form.
4. Then add material mentioned in formulation table.
5. Boil the mixture using water bath.
6. Achieve proper mixture without stirring.
7. This mixture is poured into soap mold.
8. Cooled it on room temperature up to 2-3 hrs.
9. Soap is formed.

Activity of ingredients:-

| Sr. no. | Ingredients | Activity |
|---|---|---|
| 1. | Curry leaves | Antioxidant properties |
| 2. | Tulsi leaves | Antioxidant properties |
| 3. | Turmeric | Antimicrobial agent |
| 4. | Neem oil | Preservative |
| 5. | Alovera | Moisturizer |
| 6. | Glycerin soap base | Soap base |
| 7. | Sodium lauryl sulphate | Surfactant |

Table no. 4 Activity of Ingredient

**FORMULATION OF HERBAL SOAP:-**

Fig. no. 7 formulated soap

The following Physio-chemical parameters were assessed for determining the quality of formulation against marketed herbal soap.

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Physical parameters:- The colour and odor of the prepared soap were observed. with naked eye keeping it on white background. The order of the soap was smelled.

| Perameter | FIG. NO.7 |
|---|---|
| Colour | Dark Green |
| Order | Orange |
| Shape | Rectangle |

Table no. 5. Physical parametters

pH:- The Ph was determinded by using pH paper, the Ph was found to be

Fig. no. 8 pH paper test

| Perametters | Fig . no. 8 | Standard value |
|---|---|---|
| pH | 7 | 6-7 |

Table. No 6. pH test

Foamability:- 50 ml of distilled water was taken and 2 gm of soap sample was dissolved completely by stirring. It was then transferred into a 250 ml measuring cylinder along with washings. The volume was made up to 200 ml by adding distilled water. 25 uniform strokes were given to the mixture and kept stand still for some time until the water volume comes to 200 ml. The foam height was measured from above the water volume.

Fig. no. 9 Foamability test

| Peramettes | Fig. no .9 |
|---|---|
| Formability | 10cm |

Table no. 7 Foamability test

Foam stability: Same quantity of soap sample and quantity of distilled water along with process was carried out as that of foam ability and the mixture was kept stand still for 30 min. After 30 min measurement of foam height was done from above the water volume.

| Perametters | Fig . no. 9 |
|---|---|
| Foam Stability | 4 min |

Table no. 8 Foam stability test Evaluation of Herbal

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**Soap:-**

order to verify the efficacy and quality of the final formulations , the following physicochemical characteristics were tested such as colour, aroma, pH, clarity, dirt dispersion, foam height, foam retention, skin irritation, and saponification value, etc. The soap formulation was tested using the standard approaches.

1. Colour:- When visualizing the herbal soap , a white background was used so that the colour could be determined and so that the clarity of formulations .
2. Odour / Aroma:- An evaluation of the odour of formulations we used two different methods. The first method included heating the sample on a hot plate. The second method involves inhaling a direct sample by five to six different people, including both males and females.
3. Shape:- Evaluation of organoleptic properties , such as shape and clarity , was carried out by sensory and visual examination.
4. pH:- In to determine the pH or hydrogen ion concentration , we must prepare of the sample . We used a pH 4 and pH 7 buffer solution to calibrate the pH matter . Take pH readings at room temperature , just as the reference solution. Record and note the pH level of the solution that was used to calibrate the matter and the electrode.
5. Foam forming ability:- The Cylinder Shake Method was utilised to determine Foaming ability. First, in a 100 ml measuring cylinder, we put 50 ml of a 1 % sample solution and shaken vigorously 10 times. After shaking for 1 minute, we measured the height of the foam that had formed and recorded the total volume of foam.
6. Foam stability:- The Cylinder Shake Method was utilised to determine the Foaming ability. First , in a 100 ml measuring cylinder, we put 50 ml of a 1 % sample solution. The cylindrical container was covered up with the use of the hand and shaken vigorously 10 time. The volume -of the foam after ten minutes was calculated.

**Result and Discussion**

Physical Perameters

| Properties | Characters |
|---|---|
| Colour | Dark green |
| Order | Orange |
| Shape | Rectangle |

pH

| Perameter | Result | Standard value |
|---|---|---|
| Ph | 7 | 6-7 |

Foam Ability

| Perameter | Result |
|---|---|
| Foamability | 10 |

Foam stability

| Perameter | Result |
|---|---|
| Foam stability | 4 min |

## II. CONCLUSION

In conclusion, the herbal cough syrup use of hibiscus in offers several potential benefits. Hibiscus contains compounds with anti-inflammatory, antioxidant, and antimicrobial properties that can help soothe throat irritation, reduce coughing, and support respiratory hibiscus adds a color to the syrup, health. Additionally, pleasant flavor and making it more palatable and appealing. However, it's essential to note that herbal remedies, including hibiscus-based cough syrup, should complement standard medical treatments and not replace them entirely, especially for chronic or severe coughs. Individuals should consult healthcare professionals before using herbal remedies, especially if they have underlying health conditions or are taking medications.

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