

## Formulation and Evaluation of Soap by Using Goat Milk and Manjistha Powder

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### ABSTRACT

Hand Made Soap is a mingle of both science and art by combining scientific knowledge and artistic creature. Cost-effective, skin and eco-friendly handmade soap has been developed by a cold process of saponification by using natural ingredients with vegetable oils such as coconut oil, palm oil with active ingredients such as goat milk, Manjistha powder, and essential oil. The addition of fresh goat milk is the main challenge due to heat generation by caustic lye during the saponification process. The caustic soda in soap formula is caramelize the sugar in the milk, turning soap a bright brown color or curdles the milk. The Modern measures regarding the treatment of acne are more or less failure. Further it has some limitations, cost effective and many side effects. To overcome from all these, a good herbal approach should be reached. Manjistha (*Rubia cordifolia*) can be proven a best remedy to cure acne. Certain research papers has also proven that it possess anti-inflammatory, antibacterial, antioxidant and antandrogenic effects as these are important Pharmacotherapeutic agent to break the pathogenesis of acne. Clinical manifestations of Scabies disease vary widely which may lead to secondary infections, or even cause complications. A complementary treatment with low toxicity is required to reduce irritation and improve the immunity of the skin such as soaps probiotics.

### Key words

Soap, total bacterial colonies, formulation, hand sanitizer, raw goat milk, moisturizer, manjistha, acne.

### I. INTRODUCTION

Soap is a salt of a fatty acid used in a variety of cleansing and lubricating products<sup>[1]</sup>. In a domestic setting, soaps are surfactants usually used

for washing, bathing, and other types of housekeeping. In industrial settings, soaps are used as thickeners, components of some lubricants, and precursors to catalysts.

When used for cleaning, soap solubilizes particles and grime, which can then be separated from the article being cleaned. In hand washing, as a surfactant, when lathered with a little water, soap kills microorganisms by disorganizing their membrane lipid bilayer and denaturing their proteins. It also emulsifies oils, enabling them to be carried away by running water<sup>[2]</sup>.

Soap is created by mixing fats and oils with a base<sup>[3]</sup>. A similar process is used for making detergent which is also created by combining chemical compounds in a mixer. Humans have used soap for millennia.

Goat milk soap is a traditional soap made through the process of saponification. Naturally high in saturated and unsaturated fats, goat milk creates a soap that is creamy, gentle and nourishing. Protein, fat, vitamins and minerals are the constituents of milk which provide for nutritional needs, and the most valuable constituent is protein. Likewise, milk fat function as a variable source of essential fatty acids, as well as, it may help to meet the food energy needs of a country has an inadequate caloric intake.

Manjistha's name in Sanskrit translates to "bright red", alluding to its strong affinity to the blood. An extremely important herb in Ayurveda, Manjistha has been traditionally used as a lymph mover and to revive sluggish blood circulation<sup>[4]</sup>. It is used to break down blockages the whole circulatory system of the blood and lymph. Manjistha is one of the most useful herbs to manage all types of skin disorders<sup>[5]</sup>. This causes skin problems like redness. It helps to cure skin

infection due to its anti-inflammatory, anti-bacterial, and anti-oxidant properties<sup>[6]</sup>

**BENEFITS**

- To improve dry skin,
- Prevent acne,
- To cure skin infection like scabies, irritated, tight skin, redness, wounds,
- To maintain your skin natural moisture,
- Its gentle Dirt removing property<sup>[7]</sup>

**METHODOLOGY**

**INGREDIENTS:**

- Coconut oil,
- Palm oil,
- Olive oil,
- Goat milk,
- Iye,
- Essential oil,
- Rose Mary oil,
- Manjistha powder.

**GOAT MILK**

Goat milk has lactic acid and fatty acids, which repair the skin barrier<sup>[8]</sup>. As per research, the low alpha hydroxy acids (AHA) concentration in goat milk helps hydrate, gently exfoliate and treat sun-damaged skin. In addition, it contributes to noticeably softer skin. They also have probiotics to encourage the growth of normal skin flora. Goat milk is an active ingredient for improving skin condition.

**MANJISTHA POWDER**



**BOTONICAL NAME:** Rubia cordifolia

**KINGDOM :** Plantae

**FAMILY :** Rubiaceae

**PLANT TYPICALLY USE:** Root

**FORMULATION**

Freeze goat milk for soap. Crush frozen goat milk. Add Iye .Set Iye milk mixture . Heat on oil mixture(Coconut oil, Olive oil, Palm oil,

Essential oil, Fragrance oil) .Combine Iye milk mixture with oil mixture .Added in Manjistha powder. Pour and mould

(Table 01)

S.N O	INGREDI ENT	QUANT ITY
1.	Coconut oil	120ml
2.	Olive oil	150ml
3.	Palm oil	130ml
4.	Essential oil	30ml
5.	Fragrance oil	25ml
6.	Goat milk	385ml
7.	Iye	170ml
8.	Manjistha	10g

(Table 02)

S.N O	CHEMIC ALS	SOURC ES
1.	Iye	Laborato ry reagent
2.	Essential oil	Laborato ry reagent
3.	Fragrance oil	Laborato ry reagent

**EVALUATION**

The herbal soap formulated was evaluated for the following:

**1. Organoleptic evaluation:**

- i. Colour:-brown
- ii. Odour:-Pungent
- iii. Appearance:-Good

**2. Physical evaluation:**

**a) pH:** the pH was determined by using pH paper .the pH(5.2-6.5) was found to be basic in nature<sup>[9]</sup>

**b) Foam retention:** 25 ml of the one percent soap solution was taken into a 100 ml graduated measuring cylinder the cylinder was covered with hand and shaken 10 times. The volume of foam at 1 minute's interval for 4 minutes was recorded. It was found to be 5 minutes.

**c) Foam height:** For the determination of the soap for its ability to form foam about 1.0g soap was taken and dissolve in distilled water (50ml) in measuring cylinder was then shaken for about 2-3mins and was allowed to stand for 10mins. Foam height was measured after 10mins after recorded and noted

**d) Antimicrobial test:** There was various study conducted on antimicrobial activity of neem and hence according to research paper by antimicrobial activity of Azadiricta indica leaf, bark and seed extract.<sup>[11]</sup>

**e) Moisture content:** Moisture content has been determined by oven method: 5g of soap in a petri dish was dried to constant mass in an air oven at a temperature of 105°C. Cooled in a desiccator and weighed.

**f) Cleaning efficiency:** A fixed volume of oil was applied on the inner palms of at atleast penelists and recorded the observation on the presence and absence of oily feel at the end of a prescribed washing procedure. If 70% of panelist record an absence of oily feel.

## II. RESULT

(Table 03)

S.N O	PARAMETE RS	RESULT S
1	Colour	Brown
2	Odour	Pungent
3	Appearance	Good
4	Texture	Solid and smooth
5	PH	5.2-6.5
6	Foam height	6cm
7	Moisture content	25%
8	Total fatty matter	35%
9	Cleaning efficiency	70%

The result of show that the soap was prepared from goat milk and manjistha powder.

The physiochemical parameters such as Colour, odour, appearance, pH were tested. The PH of the soap was found to be 5.2 with 6.5 with pH meter. The pH of the soap was optimum for its utilization on the skin. Remaining parameters such as foam height, foam retention, totally fatty matter, moisture content, texture also determined and the result are found in table 03. An evaluation of goat milk soap was non-irritant and non-toxic to skin. It is easily washed with running tab water<sup>[12]</sup>

All of these active ingredients are cheap and readily available in the market. As a result of this goat milk soap is having invaluable, amazing properties and act as beat natural skin lightener with minimum side effect.

## III. CONCLUSION

Thus in present work, an attempt has been made an evaluation of goat milk soap was suitable for all skin types. According to Ayurveda, skin problems are normally arises due to stimulate blood circulation, rejuvenate the muscles and help to maintain the elasticity of the skin and remove dirt from skin pores.

The soap shows the best resulting of highest percentage of skin brighting and also produces the cooling effect. This gives best results likes,

- Skin whitening,
- Prevent from dry skin,
- Avoids the ageing skin,

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