



REVIEW PAPER ON CALAMINE LOTION

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ABSTRACT:

Calamine lotion is a topical medication used to relieve irritation and itching. It serves as a moisturizer as well. Because of its cooling and calming properties, this lotion is frequently used as a protective agent against a variety of skin conditions. Calamine lotion is a liquid solution that should only be used externally. It is rubbed onto the skin in the form of a lotion or cream. Using topical over-the-counter skin care treatments like calamine aids in the early healing of the skin by absorbing skin tears. This lotion is made with extra components including calcium hydroxide and phenol in addition to zinc oxide and ferric oxide.

KEYWORDS: Calamine lotion, Zinc oxide, Topical, Skin, Itching.

INTRODUCTION:

This article focuses on calamine lotion and preparations that contain calamine lotion; topical preparations that contain zinc oxide or calamine alone (instead of calamine lotion as a whole) are not covered. Calamine lotion is located under the category of shake lotions and is composed of the active ingredient's calamine and zinc oxide, as well as bentonite, glycerine, sodium citrate, and liquified phenol.

Lotions are straightforward drug suspensions or solutions in water, alcohol, or other liquids. As the liquid component of the lotion evaporates, a film of medicine will be left on the skin's surface.

An aqueous solution of granules is called shake lotion. Because of this, these lotions need to be shaken before using. Calamine lotion has been authorized by the US Food and Drug Administration (US FDA) as an over-the-counter drug for use as a skin protectant.

The World Health Organization's list of essential medications includes calamine lotion as an anti-inflammatory and antipruritic medication in the topical dermatological medicine category.

It is advised that all shake lotions be poured into wide-neck bottles, allowing a tiny paintbrush or varnish brush to be put straight into the container and used to apply the lotion to the skin.

Below are several variations in the British Pharmacopoeia (BP) list of components for calamine lotion. [1,2,3,4]

BENEFITS OF CALAMINE LOTION:

- It aids in the management of acne.
- It helps to dry up any leaking or weeping from mild skin irritations such as poison ivy, eczema, measles, bug bites, and chickenpox.
- Calamine lotions are utilized in a variety of skin problems as an antibacterial and protective due to their cooling and soothing impact.
- Calamine lotion can simulate micro calcifications by causing tiny densities during mammography examinations.
- Calamine lotion is also used symptomatically to the skin lesions.
- It can be used in conjunction with oral antihistamines or topical corticosteroids to treat urticaria and pruritus. [5,6,7,8,9,10]

TYPES OF CALAMINE LOTION:

1] Skin Maintaining: The goal of these lotions is to preserve the softness, health, and radiance of your skin. They may also be categorized as lotions for normal, oily, and dry skin types.

Repairing damage: For extremely dry, extremely sensitive, or problematic skin types.

2] Cellulite-Reduction: This method helps to reduce cellulite and smooth out that peeling skin.

3] Anti-Wrinkle Or Anti-Aging: Especially designed for aging skin, these products frequently include antioxidants like vitamin E and retinol.

4] Fairness And Anti-Tan: Some claim to internally trigger fairer skin by preventing the synthesis of melanin, the skin's natural darkening pigment. Others target skin that has already tanned.

5] **Anti-Stretch Marks:** These are a best-seller among expectant mothers (naturally enough) and come in two stages: preventative and repair.[11]

MATERIALS:

Calamine Powder:



Fig1: Calamine powder

- Calamine powder is a composition of zinc oxide combined with some amounts of ferric oxide.
- The presence of iron (in the form of ferric oxide) in Calamine powder.
- It reduces redness and swelling of infected skin conditions and also used as a mild antiseptic to prevent infections [12]

Bentonite Powder:



Fig2: Bentonite powder

- In calamine lotion, it serves as a stabilizing and suspending ingredient.
- Additionally, bentonite makes skincare products more water resistant and helps them stick to your skin.
- It is a swelling clay that absorbs moisture, mostly made up of montmorillonite.[12]
- It often occurs as a result of volcanic ash weathering in saltwater, which changes the ash's volcanic glass into clay minerals.

Sodium Citrate:



Fig3: Sodium Citrate

- The sodium form of citric acid is called sodium citrate.
- It is a white powder with a crystalline structure or white granules that are nearly insoluble in alcohol, readily soluble in water, and somewhat deliquescent in damp air.
- It tastes sour, just like citric acid.[12]

Zinc Oxide:**Fig4: Zinc Oxide**

- The molecular form of zinc is zinc oxide.
- An inorganic substance utilized in a number of manufacturing procedures is zinc oxide.
- Rubbers, polymers, ceramics, glass, cement, lubricants, paints, ointments, sealants, adhesives, pigments, edibles, ferrites, batteries, fire retardants, and first-aid tapes are among the items that include it.[12]

Glycerine:**Fig5: Glycerine**

- Generally hygroscopic
- Prevents lotion from drying out, allowing it to stay on the skin longer.
- Additionally, emollient and antibacterial properties soothe and soften skin.
- Create an occlusive layer on the skin to stop it from evaporating. It so helps dry, damaged skin-regain its suppleness.
- Glycerine has soothing and anti-irritant properties, which can help calm the skin and reduce discomfort associated with irritations or rashes. [12]

Vitamin E:**Fig6: Vitamin E Tablets**

- Vitamin E is known for its antioxidant properties, which help protect skin cells from damage. It may enhance the healing process of irritated or damaged skin.
- It prevents damage to the skin caused by free radicals from UV exposure.
- Vitamin E can have anti-inflammatory effects, which may help reduce redness and swelling associated with skin irritations.
- The antioxidant properties of Vitamin E might help minimize scarring and promote healthy skin regeneration after irritations have healed.[12]

Ingredients Use And Formulation:

Ingredients	Uses	Quantity
Calamine Powder	Astringent	4.5 gm
Bentonite	Suspending agent	0.9 gm
Sodium Citrate	Chelating agent	0.5 gm
Zinc Oxide	Protective	1.5 gm
Glycerine	Soothing agent	0.15 ml
Vitamin E	Antioxidant	2 gm
Purified water	Base	Q.S.

PROCEDURE:

- 1) Weigh Ingredients:** Accurately weigh the calamine, zinc oxide, bentonite, and sodium citrate. Place them in a mortar.
- 2) Triturate the Mixture:** Using the pestle, triturate the ingredients to reduce their size and achieve a uniform consistency.
- 3) Grind to Fine Particles:** Continue grinding until the mixture is finely powdered and homogenous.
- 4) Add Liquids:** Gradually add 0.15 ml of glycerine, 30 ml of water, and the desired amount of vitamin E to the powdered mixture. Mix thoroughly to form a fine paste.
- 5) Dilute the Paste:** Carefully add more water to the paste, ensuring to achieve a uniform mixture.
- 6) Adjust Consistency:** Continue adding water until the paste is pourable and of desired consistency.
- 7) Transfer to Measuring Cylinder:** Pour the prepared paste into a measuring cylinder for accurate volume measurement.
- 8) Final Volume Adjustment:** Add water to adjust the total volume of the mixture to 30 ml.
- 9) Storage:** Transfer the final paste into a suitable container for storage, ensuring it is properly sealed.

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