

Review On Humectant Activity Of Aloe Vera In Calamine Lotion

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Abstract- Herbal cosmetics are formulated, using different cosmetic's ingredients to form the base in which one or more herbal ingredients are used to cure various skin ailments. The name itself suggest that herbal cosmetics are natural and free from all the harmful synthetic chemicals which otherwise may prove to be toxic to the skin. Compared to other beauty products, natural cosmetics are safe to use. Cosmeceuticals are cosmetic-pharmaceutical hybrid products intended to improve the health and beauty of the skin by providing a specific result, ranging from acne-control and anti-wrinkle effects, to sun protection. Calamine lotion is widely used as an antiseptic and protective for its cooling and soothing effect in various skin disorders. Instead of traditional synthetic products different plant parts and plant extracts are used in this study to procure calamine lotion having natural humectants, e.g. aloe-vera gel and honey. Herbal cosmetics are the preparations used to enhance the human appearance. The purpose of this study is to compare the semi synthetic activity of glycerin with other humectants in terms of their emollient properties to ensure whether calamine lotion can be formulated using natural humectants or not.

Calamine lotion is a shake lotion composed of calamine (zinc oxide/carbonate and ferric oxide), zinc oxide, bentonite, glycerine, sodium citrate, and liquified phenol. It is used widely in dermatology as a soothing agent. It is a preferred topical therapeutic agent for children including infants and considered safe in lactation. pregnancy is and lactation.

Keywords: Calamine lotion, Shake lotion, Zinc oxide, Humectants, Aniseptic.

INTRODUCTION:



The calamine lotion comes under the category of shake lotions and contains calamine and zinc oxide as active ingredients. In addition, it also contains bentonite, glycerine, sodium citrate, and liquefied phenol. (1) Calamine lotion has been used for many years for its protective and mild astringent properties in the treatment of various skin disorders. s. Calamine lotion is the most popular preparation. And it became official in National Formulary in 1926. n. Calamine has been used as far back as 1500BC. The name of calamine was derived from Lapis calaminaris. (5) Calamine lotion since its introduction into the National Formulary 1 has been a source of frequent investigation. The preparation has always enjoyed great popularity but has never been an elegant preparation pharmaceutically. Previous to the seventh revision of the National Formulary 2 no suspending agent was included in this lotion and the ingredients separated immediately after manufacture (6) Calamine lotion and its 'modifications, such as phenolated calamine lotion, hold an important place as useful medicaments in the management of cutaneous diseases and in the practice of dermatology. (8) As recommended that all shake lotion should be allocated in wide neck bottles so that a small makeup or shield encounter (which used to apply lotion to the skin) can be directly fitted into the bottle. Simple dormancies or drug in water, alcohol, or other liquids are called lotion. When applied and left on the skin, the lotion will leave a film of drug

on skin face, as the liquid portion evaporates. Shake lotion are waterless suspensions of maquillages. Hence, similar lotions bear shaking before each operation. The United States of America Food and Drug Administration (US FDA) has approved calamine lotion as an untoward drug that can serve as a skin protectant. Calamine lotion is included as anti-inflammatory and antipruritic drug in the World Health Organization's list of essential drugs, under the order of dermatological drugs (topical). (1)

The lotion is used extensively in the field of dermatology as a soothing agent in conditions like nonentity mouthfuls, mosquito mouthfuls, heat rash etc. The skin irritation is the common complaint especially for the people who are living in the sticky topical regions. The calamine lotion is extensively used topically to relieve the skin irritation problem. It's applied on skin as a cream or a lotion. The lotion substantially contains 3-5% of zinc oxide, calamine, glycerol, bentonite and a thawed phenol. The reduction of the flyspeck size of the calamine and the zinc oxide enhances the quality of the medication. In utmost of the reports, it has been conceded that the sanctioned calamine lotion is thickened on the standing and results in the defied inflow capability, so the water-soaking agents are used to increase suspendability and spreadability of the lotion. (5) The lotion as topical dormancies, results and mixes are generally serve as vehicles for topically applied medicines, as emollients, or as defensive or occlusive dressings, or they may be applied to the skin and membranes similar as the rectal, buccal, nasal, and vaginal mucosa, urethral membrane, external observance filling, or the cornea. Herbal remedies enrich the body with nutrients and other useful minerals. There's increased scientific substantiation that shops retain a vast and complex magazine of active constituents which not only have the capability to calm or smooth the skin but also to restore laboriously, heal and cover the skin. An herbal lotion that can give effective protection to skin and free from any toxin or poisonous residue or irritation when regularly used should be cosmetically respectable. (3).

MATERIALS AND METHODS:

	Ingredients	Manufacturer
1.	Calamine	Research Lab FINE CHEM,Mumbai
2.	Bentonite	Research Lab FINE CHEM,Mumbai
3.	Zinc oxide	Loba Chemise Pvt.Ltd.
4.	Sodium Citrate	Research Lab FINE CHEM,Mumbai
5.	Purified phenol	Research Lab FINE CHEM,Mumbai
6.	Glycerine	
7.	Aloe Vera	

Ingredients used in calamine lotion:

[1]. Calamine: - It may be either zinc carbonate or zinc oxide (98%), coloured pale pink with ferric oxide (2%), and has bland, soothing, and antipruritic properties.

[2]. Bentonite: - Bentonite is colloidal hydrated aluminium silicate. Bentonite serves as a stabilizer in shake lotions. Hydrated aluminium silicate When water is added it swells up and gives a gel like but with non-viscous consistency. Acts as a suspending agent and reduces the viscosity. - It helps to make the lotion uniform.

[3]. Zinc oxide: - It's an inorganic greasepaint with cooling and slightly tangy parcels. It has soothing and defensive parcels. It can block broad- diapason sun (ultraviolet B and A and visible light). Hence, it's preferred as an affordable physical sunscreen. Substances that precipitate proteins but don't access cells, hence affecting the superficial layers only.

[4]. Sodium Citrate: -The Sodium citrate controls the pH of the lotion.

[5]. Purified phenol: -It acts as a preservative, alleviates itching (through its aesthetic effect), and acts as an antiseptic.

[6]. Glycerine: - Glycerine is a humectant, emollient, and stabilizer. Hygroscopic in nature Prevents drying of embrocation, so it remains at the point of operation for a longer time. Also, antiseptic and emollient factuality and softens the skin. Form an occlusive film over skin and help the evaporation. And hence restores plainness of cracked and dry skin.

[7]. Aloe Vera is deduced from the tropical cactus of the rubric aloe. Aloe Vera derives its name from the Arabic word — Aloe which means — shining bitter Vera which means — true in Latin. It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, imperishable, xerophytic, succulent, pea-green colour factory. The aloe factory has long (up to 20 elevation long and 5 elevations wide), triangular, fleshy leaves that have harpoons along the edges. The fresh parenchymal gel from the centre of the splint is clear; this part is occasionally dried to form aloe Vera concentrate or adulterated with water to produce aloe juice products. There are over 300 species of aloe, utmost of

which are native to South Africa, Madagascar and Arabia. Aloe Vera is one of the oldest medicinal plants for healthy skin ever known. This plant is frequently mentioned used in herbal drugs since the morning of the first century Announcement.

AV is effective for crack mending through colourful mechanisms similar as maintaining wettish injuries, adding cell migration, adding collagen product, and reducing inflammation. Aloe vera to treat injuries similar as psoriasis, mouth blisters, ulcers, diabetes, herpes, scrapes, and burn injuries. AV is veritably good at maintaining humidity, tensing, and smoothing the skin. Aloe vera gel is an active component in hundreds of skin poultices, sun blocks and cosmetics. AV gel contains colourful vitamins similar as vitamin B12, vitamin A, other B- group vitamins, vitamin C, vitamin E, folic acid, and 19 of the 20 amino acids demanded by the mortal body.



METHODS:

Sr. No.	Name Of Chemicals	Role Of Chemicals
1.	Calamine	Blenders soothing Agent and antipruritic properties.
2.	Bentonite	suspending agent and reduces the viscosity
3.	Zinc oxide	soothing and defensive parcels
4.	Sodium Citrate	controls the pH of the lotion
5.	Purified phenol	preservative, alleviates itching (through its aesthetic effect), and acts as an antiseptic.
6.	Glycerine	humectant, emollient, and stabilizer.
7.	Aloe Vera	humectant, reducing inflammation.

EVALUATION TESTS:

The evaluation of the formulation was done the following parameters: -

1. Visual Appearance
2. Colour
3. Accelerated stability testing
4. Viscosity
5. pH test
6. Skin sensitivity

1. Visual Appearance: - The visual appearance of the formulation at each stability testing condition is assessed by comparing the colour of the lotion to the initial colour and appearance of the C. niloticus oil lotion.

2. Colour: - The colour of the lotion is determined.

3. Accelerated stability testing: - Accelerated stability testing of prepare formulation conducted at $40 \pm 2^\circ\text{C}$ temperature and $75 \pm 5\%$ relative humidity.

4. Viscosity test:- Viscosity is measure using the Brookfield Viscometer.

Brookfield Viscometer is used to determine the viscosity of the lotion at each storage condition.

The lotion is placed in a pre-heated water bath to reach a temperature of 25°C .

The viscosity reading is measured every 10 seconds, for the duration of 5 minutes. Approximately thirty-two readings generated and the average viscosity determined.

5. pH Test: - Lotion pH is measured with a digital pH meter. 10% solution of prepared lotion and the pH meter is immersed in the solution and measured the pH.

6. Skin Sensitivity: - A portion of lotion is applied on the forearms of 6 volunteers and left for 20 minutes. After 20 minutes any kind of irritation if occurred is noted

CONCLUSION:

FDA considers calamine lotion as a skin protectant. In market, there are various type of calamine lotion are available, claiming that they relieve the itching, pain & discomfort of minor skin irritations.

Formulation of cream pH, Spreadability, Washability, non-irritancy test, viscosity of cream and gives good result.

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