

# Formulation & Evaluation of Cold Cream By Natural Ingredients

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**Abstract:** *The formulation and evaluation of cold cream using natural ingredients is a significant endeavor in cosmetic science due to increasing consumer demand for eco-friendly and skin-friendly products. This study aimed to develop cold cream formulation using natural ingredients and evaluate its physicochemical properties, stability, and sensory attributes.*

*Initially, various natural ingredients such as oils (e.g., almond oil, coconut oil), butters (e.g., shear butter), and emulsifiers (e.g., beeswax) were selected based on their moisturizing, emollient, and stability-enhancing properties. These ingredients were combined in different ratios to achieve the desired consistency, spreadability, and stability of the cold cream.*

*The formulated cold cream underwent rigorous evaluation, including pH determination, viscosity measurement, stability testing under different storage conditions (temperature and light exposure), and sensory evaluation (appearance, smell, texture). Physicochemical tests ensured that the cold cream met the required standards for cosmetic products.*

*The cold creams are more moisturizing as they provide an oily barrier which reduces the water loss from the stratum corneum, the outermost layer of the skin. They are water-in-oil emulsion and intended for application on skin or accessible mucous membraneto provide localired and sometimes systemic effect at the site of application.*

*Sandalwood is a class of woods from trees in the genus Santalum. The woods are heavy, yellow, and fine-grained, and, unlike many other aromatic woods, they retain their fragrance for decades Sandalwood oilis extracted from the woods for use...*

**Keywords:** Cold Cream , Evaluation, Topically ,Skin , Formulation Skin

## I. INTRODUCTION

Cosmetics word is derived from the Greek word —Kosmtikos || which means the power, organization and skill in beautifying. Cold cream is an emulsion of water and certain fats, usually including beeswax and various scent agents, designed to smooth skin and remove makeup. Cold cream is a water-in-oil emulsion, unlike the oil in water emulsion of vanishing cream, so-called because it seems to disappear when applied on skin. Shame plant has antibacterial properties that helping treatment of rashes, fungal infection, dermatitis, psoriasis, and acne. The roots of this plant are used to treat vitiligo-a skin disease that causes loss of skin pigmentation. The invention of cold cream is credited to Galen, a physician in second century Greece. This 1857 account relates: The modern formula for cold cream is, however, quite a different thing to that given in the works of Galen, in point of odour and quality, although substantially the same—grease and water. In perfumery there are several kinds of cold cream, distinguished by their odor, such as that of camphor, almond, violet, roses, etc.

Cold cream is an emulsion of water and certain fats, usually including bees wax and various scent agents, designed to smooth skin and remove makeup. Cold cream is a water-in-oil emulsion (emulsion of small amount of water in a larger amount of oil), unlike the oil in water emulsion of vanishing cream, so-called because it seems to disappear when applied on skin. The name "cold cream" derives from the cooling feeling that the cream leaves on the skin. Variations of the product have been used for nearly 2000 years.

Cold creams are water-in-oil or oil-in-water type emulsions added with certain fats (generally beeswax) and perfuming agents. These are applied on skin to provide smoothness and remove makeup. Cold creams are named so due to the



cooling effect they impart on application. Cold cream is an emulsion in which the proportion of fatty and oily material predominates, although when it is applied to the skin a cooling effect is produced due to the slow evaporation of the water contained in the emulsion Cold cream is an example of Water-in-oil (W/O) emulsion. In cold cream, the major portion is the oil phase. Simply, the cold cream is an oil-based semisolid preparation. Cold cream is also known as Unguent or Ceratum Refrigerants Generally, it contains mineral oil, beeswax, borax, and water It is a soothing and cleansing cosmetic typically of oily and heavy consistency, Uses of cold cream are less than vanishing cream (oil in water emulsion) as topical pharmaceutical dosage

### Study Objectives

1. To prepare the cream by using the emulsification technique.
2. To make safety, efficacy and quality of Herbal cold cream.
3. They are non-irritant applied on the skin.
4. To explore the many aspects of the rich traditional Indian herbal medicine.
5. To give knowledge gained during the course in evaluating the usefulness of herbal formulas.
6. To formulate and evaluate an herbal cold cream for shining skin by using natural herbal product.
7. To make a cold cream ideal for all skin types.
8. To give the useful benefits of cold cream on human use as cosmetic product.

### Literature Review

- 1).Roshan Yadav,et al(May-2023) Pharmaceutical creams are used for a number of aesthetic purposes, including cleansing, beautifying, modifying look, moisturising, etc. They also protect the skin from bacterial and fungal infections and can be used to treat skin injuries including burns, cuts, and wounds. The general population and society infections and can be used to treat skin injuries including burns, cuts, and wounds. The general population and society can safely employ these semi-solid preparations. The products used to enhance and beautify human appearances are known as cosmetics
- 2) Tejswini Devidas Navgire,et al(September-2021) :The formulations showed good spreadability, no evidence of phase separation and good consistency during this study period. It was found that the viscosity of the cream increases when decreasing the rate of shear so the viscosity of cream inversely proportional to rate of shear (rpm). There is no sign of microbial growth after incubation period of 24hrs at 370C and it was comparable with the control
- 3). Miss.Shalu Manisha,et al(June-2022) Cream was formulated and evaluated by different evaluation parameters Such as pH,viscosity, spreadbilty physical appearance and irritancy test. Stability testing for Prepared formulation was performed by stirring it at different temperature condition for timeperiod 24th for 1 Week. To Know parameters like odour, pH,smoothness of lotion.
- 4). Nemade Mahesh Sopan,et al (September-2023) The formulated cream showed good consistency and spreading Ability, pH and no evidence of phase separation during the study period. Stability parameters such as appearance, Properties, viscosity and fragrance of the formulated cream did not show any significant change during the study Period. Cold creams with herbal extracts have a cooling and soothing effect because the water in the emulsion slowly Evaporates. Cold creams are more moisturizing because they create an oily barrier that reduces water loss from the Outermost layer of the skin, the stratum corneum. They are water-in-oil emulsions intended for use on accessible skin Or mucous membranes to produce a local and sometimes systemic effect at the site of application.

### AIM:-

Formulation And Evaluation Of Herbal Cold Cream By Natural ingredients

### OBJECTIVE:

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#### Ideal Characteristics of Cold Cream

1. It should have a low sensitization index.
2. It should be elegant in appearance.
3. It should be non-dehydrating.
4. It should provide a smooth texture.
5. It should be non-greasy and non-staining.
6. It should not cause irritation to the skin.

#### PLAN OF WORK

To achieve this objective the following plan of work was made

1. Literature Survey
2. Objectives
3. Materials and Ingredients : Natural ingredients
  - Beeswax – emulsifying agent
  - Coconut oil – emollient
  - Almond oil / Olive oil – moisturizer and nourishing agent
  - Rose water – aqueous phase and fragrance
  - Aloe Vera gel – soothing and healing agent
  - Vitamin E oil – antioxidant
  - Essential oils (e.g., lavender or rose) – fragrance and antimicrobial
4. Equipment Required : Beaker, PH meter, Hot Plate, Thermometer
5. Evaluation Parameters :
6. Organoleptic properties: Color, odor, texture
  1. pH: Should be skin-friendly (~5.5-6.5)
  2. Spread ability
  3. Viscosity
  4. Stability studies: 5. Freeze-thaw cycles
- 7) Result
- 8) Conclusion
- 9) Reference

#### Herbal Drug and Excipient Profile

1. Bess Wax:



Beeswax is one of the most important ingredients in home-made cosmetics. Why on earth we haven't yet written a word about beeswax? Maybe beeswax is just so self-evident that we haven't even thought about it. However, beeswax is the most versatile ingredient that suits perfectly to the skin. The beeswax itself is clear and transparent. Worker bees chew the beeswax which brings propolis to wax. The pollen carried by the worker bees gives to beeswax its clear, yellow colour.

Synonym: Paraffin-wax, Carnauba.

Biological source: It is a product made from the honeycomb of the honeybee and other bees.

Family: Apidae

Chemical constituents: The main chemical constituents are carbon (73.3%), hydrogen (13.2%) and oxygen (7.5%).

Uses: It offers a moisturizer that protects your lips from becoming dry and developing cracks. It is also used in lip-balm, lip-gloss, etc.

## **2. Borax:**

Common Name: sodium borate, sodium tetra borate, or disodium tetraborate Botanical Name: Sodium tetraborate-decahydrate



Borax is used in lotions and creams. Borax is combined with wax to improve the consistency of lotions and creams. It also work as an emulsifier when used with wax and it is mostly used in hand soaps. It is excellent ingredient used for cleaning as it's alkaline in nature. The best-known use for borax is as a cleaner, but you can find the ingredient in many other household products, including: Specialty toothpastes and mouthwashes. Cosmetics such as lotions, skin creams, moisturizers, sunscreen, and acne care products. Liquid Paraffin is used in the treatment of dry Skin. It relieves dry skin conditions such as eczema, ichthyosis and pruritus of the elderly. Liquid

Paraffin is an emollient (substance that softens or soothes the skin). It works by preventing water loss from the outer layer of skin. Borax is known to serve as a precursor to several commercially important compounds of boron, the most notable of which is boric acid (which is widely used as an insecticide). It is not uncommon for borax to be used in photographic developers as an alkali. Borax is also used as a flux in certain metallurgic processes. This compound is known to serve as a crosslinking agent during the preparation of slime. The field of biochemistry is known to make extensive use of borax for the production of buffer solutions. In several cooking techniques, this compound is known to serve as a texturing agent. Borax is also used in the neutron capturing shields for the safe storage, transportat and use of radioactive substances. This compound is also known to act as an anti-fungal agent and can, therefore, be employed to kill fungi or inhibit their growth.



### 3. Liquid Paraffin:



Liquid paraffin, also known as paraffinum liquidum or Russian mineral oil, is a very highly refined mineral oil used in cosmetics and medicine. Cosmetic or medicinal liquid paraffin should not be confused with the paraffin (or kerosene) used as a fuel. It is a transparent, colorless, nearly odourless, and oily liquid that is composed of saturated hydrocarbons derived from petroleum. Paraffin is mainly known as petroleum wax, which is very economical due to its low price and is mainly used as a raw material or base for petroleum products.

Common Name : Petrolatum

Molecular Formula:  $C_{15}H_{11}ClO_7$  Molecular Weight (g/mol) 338.696

### 5. Rose Water



#### Rose Water

Rose water is a key ingredient in the preparation of cold cream, adding fragrance and potential benefits for the skin. When used in cold cream, rose water can help soothe and hydrate the skin, making it particularly suitable for dry or sensitive skin types. Additionally, the natural fragrance of rose water adds a pleasant scent to the cream.

Used for centuries in various cultures for its beauty and health benefits. Rose water is commonly used in cooking, cosmetics, and religious ceremonies. It is known for its soothing and refreshing properties and is often used as a natural toner and astringent for the skin. Rose water can also be added to baths or used as a flavoring in food and drinks.

Merit: The species is native to the Caribbean and South and Central America, but is now a pan tropical weed, and can now be found in the Southern United States, South Asia, East Asia, Micronesia, Australia, South Africa, and West Africa as well. It is not shade-tolerant and is primarily found on soils with low nutrient concentrations.





## II. CONCLUSION

By using shame plant the cream showed a multipurpose effect and all these aloe ingredients showed significant different activities. Based on results and discussion, the formulations F, were stable at room temperature and can be safely used on the skin. However the formula showed the best results in all aspects. From the above results it is concluded that the formulated cream showed good consistency and spreadability, homogeneity, pH, non-greasy and there is no phase separation during study period of research. From the above study it can be concluded that the cold cream is safe to use as it is developed from extract. Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. So, the values of herbs in the cosmeceutical have been extensively improved in personal care system and there is a great demand for the herbal cosmetics nowadays. An herbal cream which is non-toxic, safe, effective and improves patient compliance by the utilization of herbal extracts would be highly acceptable than synthetic ones.

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