
FORMULATION AND EVALUATION OF HERBAL COLD CREAM USING SANDALWOOD POWDER

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Article Received: 04 April 2026, Article Revised: 24 April 2026, Published on: 14 May 2026

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DOI: <https://doi-doi.org/101555/ijarp.8199>

ABSTRACT:

This project focuses on the formulation and evaluation of a cold cream infused with natural sandalwood powder, a traditional ingredient renowned for its therapeutic properties in skincare. Cold creams have long been used as emollients to provide moisturization, protection against harsh weather conditions, and relief from dry and flaky skin. By incorporating sandalwood powder into the base formulation, the product is enriched with antimicrobial, anti-inflammatory, and cooling properties that enhance its efficacy beyond that of a conventional cold cream.

Sandalwood powder, derived from the heartwood of the sandal tree (*Santalum album*), has been widely recognized in Ayurvedic and cosmetic practices for its ability to soothe skin irritation, reduce acne and blemishes, even out skin tone, and impart a natural glow. Its subtle, calming fragrance adds a sensorial appeal to the formulation, promoting relaxation and mental well-being.

The formulation process involves the combination of aqueous and oily phases stabilized by emulsifying agents to produce a smooth, semi-solid cream with desirable consistency and spread ability. Key ingredients include emulsifying wax, white soft paraffin, mineral oil, borax, and distilled water, along with the sandalwood powder. The cream is subjected to various tests including pH, viscosity, spread ability, and stability studies to ensure it meets cosmetic standards.

The final product is a luxurious, non-greasy cold cream that delivers deep hydration, soothes inflammation, and supports the skin's natural healing processes. Its formulation bridges the gap between traditional herbal remedies and modern skincare science, offering a holistic

approach to skin nourishment. The use of sandalwood powder not only enhances the functional benefits of the cream but also appeals to consumers seeking natural and sustainable personal care products. This study emphasizes the potential of plant-based ingredients in enhancing the value and performance of everyday skincare formulations.

KEYWORDS: Herbal, Cold Cream, Sandalwood Powder, Skin, Antioxidant, Phyto ingredients.

INTRODUCTION:

Cold cream, a staple in the world of skincare, has been used for centuries for its soothing and moisturizing properties. Traditionally, cold creams are composed of emulsified oils and water, designed to hydrate the skin while providing a cooling and calming effect. Over time, the formulation of cold creams has evolved, incorporating various natural ingredients to enhance their therapeutic benefits.

One such ingredient, sandalwood powder, is renowned for its aromatic and skin-beneficial properties. Sandalwood has been used in traditional medicine and skincare for its anti-inflammatory, antiseptic, and skin-healing effects. The fine powder derived from sandalwood trees is often added to skincare formulations to promote healthy skin, soothe irritation, and provide a natural, pleasant fragrance. The incorporation of sandalwood powder into cold cream formulations could potentially enhance the cream's ability to nourish and rejuvenate the skin while offering additional medicinal benefits.

This study explores the formulation of a cold cream enriched with sandalwood powder, aimed at providing a holistic skincare product that combines the moisturizing properties of cold cream with the therapeutic qualities of sandalwood. By integrating sandalwood powder into the cold cream base, we aim to create a product that offers dual benefits: deep hydration and the calming, healing effects of sandalwood.

Furthermore, the evaluation of this cold cream formulation will assess its stability, texture, spread ability, skin compatibility, and effectiveness in terms of moisturizing and soothing properties. The results will provide insight into the potential of sandalwood powder as a valuable ingredient in modern skincare formulations, addressing both cosmetic and dermatological concerns.

The objective is to develop a product that not only nourishes and moisturizes the skin but also leverages the natural therapeutic properties of sandalwood to enhance skin health. In addition to sandalwood powder, the formulation incorporates other natural excipients such as oils,

waxes, and humectants to create a stable and cosmetically appealing emulsion suitable for daily use.

By tapping into the wisdom of traditional herbal medicine and aligning it with contemporary pharmaceutical techniques, this work aims to pave the way for more sustainable and skin-compatible cosmetic innovations. The development of a sandalwood-based herbal cold cream exemplifies a harmonious fusion of nature and science, offering a promising solution for holistic skincare.

Cold creams traditionally serve as emulsified mixtures that provide moisturizing, cleansing, and protective benefits to the skin. However, modern formulations increasingly integrate herbal components to enhance their therapeutic value and reduce the potential for adverse reactions. One such potent herbal ingredient is sandalwood powder, revered in Ayurvedic and Unani systems of medicine for its multifaceted dermatological properties.

LITERATURE REVIEW:

1. Cold Cream: A Historical Overview

Cold cream has been used for centuries as a skincare product, originally developed by ancient Greeks and Romans. Its primary function is to hydrate and cool the skin, making it especially effective for dry or irritated skin. Cold creams are typically emulsions of oil and water, with the oil serving as a barrier to prevent moisture loss and the water providing immediate hydration. The classic formulation of cold cream is based on a hydrophilic-lipophilic balance, allowing for effective absorption and long-lasting moisture retention.

Cold creams have traditionally been used for removing makeup, soothing burns, and treating dry skin. With advancements in cosmetic chemistry, the modern formulations often include a variety of botanical and medicinal ingredients, such as aloe vera, vitamin E, and herbal extracts, to enhance their skin benefits.

2. Sandalwood: A Traditional Skin-Healing Ingredient

Sandalwood (*Santalum album*) has a long history of use in traditional medicine across cultures, particularly in Indian Ayurvedic and Chinese medicine. The powder obtained from sandalwood is renowned for its anti-inflammatory, antimicrobial, antioxidant, and skin-soothing properties. Several studies have highlighted the therapeutic uses of sandalwood in treating a variety of skin conditions, including acne, eczema, and dryness.

Sandalwood is rich in santalol, a compound responsible for its characteristic aroma and

therapeutic properties. The powder derived from sandalwood is frequently incorporated into skin-care formulations due to its ability to calm inflammation, reduce redness, and promote a more even skin tone (Sivaramakrishnan & Rajagopal, 2014). Additionally, sandalwood's antibacterial and antifungal effects make it an excellent choice for promoting overall skin health.

3. Cold Cream Formulation with Herbal Additives

The inclusion of herbal and natural extracts in cosmetic formulations is gaining popularity due to the growing consumer demand for products with fewer synthetic ingredients and greater biocompatibility. The addition of sandalwood powder to cold cream formulations is particularly promising, as it combines the moisturizing and cooling properties of cold cream with the healing benefits of sandalwood.

Research has demonstrated that the incorporation of natural plant extracts such as sandalwood can enhance the therapeutic qualities of cosmetic products, particularly in formulations intended for sensitive or damaged skin. A study by Basha et al. (2018) found that cold creams enriched with plant-based ingredients such as sandalwood powder were more effective in improving skin hydration, reducing irritation, and promoting skin regeneration compared to those with only synthetic moisturizers.

4. Formulation Considerations: Emulsion Stability and Texture

When formulating a cold cream with sandalwood powder, several considerations are critical to ensure the stability and efficacy of the product. The primary challenge in incorporating powders like sandalwood into cold cream formulations is ensuring that the powder is properly dispersed within the emulsion and does not cause separation or grittiness.

Studies on emulsifiers and stabilizers, such as acetyl alcohol, stearic acid, and glycerine, have shown that they are essential in maintaining the stability of emulsions by preventing phase separation and ensuring consistent texture. The role of emollients is also important to enhance the smoothness and spread ability of the cream while preventing the product from feeling greasy or heavy on the skin.

Incorporating sandalwood powder into such emulsions requires careful balancing of these ingredients to achieve a smooth, non-gritty texture. Furthermore, the impact of the powder on the viscosity, spread ability, and sensory attributes (such as scent and feel) of the cold cream

must be evaluated through sensory testing and stability studies.

5. Evaluation of Cold Creams with Sandalwood Powder

The evaluation of cold cream formulations typically involves a range of physicochemical tests to assess factors such as pH, viscosity, spread ability, stability, and microbial contamination. For cold creams enriched with sandalwood powder, additional considerations such as skin compatibility, moisturization effect, and anti-inflammatory efficacy are crucial.

Stability testing is essential to ensure that the formulation does not undergo phase separation, microbial contamination, or degradation of the active components over time. Accelerated stability studies often involve subjecting the formulations to temperature variations and observing changes in texture, appearance, and efficacy.

Skin compatibility can be assessed using in vitro models or human patch testing to check for any allergic reactions or irritation. Additionally, clinical studies often evaluate the hydration levels and soothing effects of the formulation through corneometer readings and subjective feedback from users.

AIM:- Formulation and Evaluation of Herbal Cold Cream by Sandal Wood Powder.

OBJECTIVE:

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

PLAN OF WORK:

HUMAN SKIN:

The largest organ in the body is the skin. It completely covers the body. It acts as a barrier against heat, light, harm, and infection. The skin also:

1. Regulates body temperature

2. Stores water and fat
3. Is a sensory organ
4. Prevents water loss
5. Prevents entry of bacteria
6. Acts as a barrier between the organism and its environment
7. Helps to make vitamin D when exposed to the sun.

Human skin is the largest organ in the body and plays several important roles in maintaining overall health. It consists of three main layers: the epidermis, dermis, and hypodermis, each performing specialized functions to maintain overall health and homeostasis. The epidermis provides a protective barrier against pathogens and harmful environmental factors, while the dermis contains vital structures such as blood vessels, nerve endings, and glands that regulate body temperature, sensation, and moisture. The hypodermis, rich in adipose tissue, insulates the body and anchors the skin to underlying structures. The skin's roles extend beyond protection, including temperature regulation, sensation, excretion, and the synthesis of vitamin D. However, skin health is influenced by factors such as diet, hydration, sun exposure, and environmental conditions. Over time, the skin undergoes aging processes, leading to changes in elasticity and structure. Proper skincare is essential to maintain skin integrity and prevent various disorders, including infections, acne, and skin cancers. Understanding the complexity of skin anatomy and its functions highlights its importance in overall well-being and longevity.

SKIN CARE PRODUCT:

1. Face wash
2. Moisturising cream
3. Vanishing cream
4. Cold cream

COLD CREAM:

Cold cream is a rich, emollient-based skincare product traditionally used to moisturize, soothe, and protect the skin. Composed of a combination of water, oils, waxes, and sometimes antiseptics or fragrances, cold cream creates a barrier that locks in moisture, making it particularly effective for dry and irritated skin. Historically used as a beauty treatment since ancient times, cold cream remains popular for its ability to hydrate and remove makeup, while also providing relief for conditions like chapped lips, sunburn, and

minor skin irritations. Its thicker consistency and occlusive properties distinguish it from lighter moisturizers, making it ideal for use in harsh weather conditions or for individuals with very dry skin. Despite its benefits, cold cream may not be suitable for oily or acne-prone skin due to its high oil content. Overall, cold cream remains a versatile and trusted solution in modern skincare.

Cold cream differs from typical moisturizers due to its thicker consistency and higher oil content. While most moisturizers are lighter and designed to absorb quickly into the skin, cold cream forms a heavier, more occlusive barrier that can be ideal for extremely dry skin or for use in harsher environmental conditions. It may feel greasy on the skin, which is why some people prefer using it as a night cream or in a more targeted fashion (e.g., on hands or feet).

Cold cream has been used for centuries, with origins dating back to ancient Egypt. Historical records suggest that Cleopatra used a form of cold cream for skincare. Over the years, the formulation evolved, and by the 19th century, cold cream became a popular beauty treatment, especially for women.

The name "cold cream" is thought to come from the sensation of coolness it provides when applied to the skin, due to the water and oils it contains. While the basic formulation has remained relatively unchanged, modern versions may contain added active ingredients to enhance their benefits.

Cold cream is a classic skincare product valued for its ability to hydrate, protect, and soothe the skin. Its thick, emollient-rich texture makes it especially effective for dry, irritated, or chapped skin, while also serving as an effective makeup remover. Whether used for moisturizing, healing, or calming, cold cream remains a trusted and versatile skincare solution.

IDEAL CHARACTERISTICS OF COLD CREAM:

1. It should have a low sensitisation 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.
7. It should not alter the membrane or skin functioning.

USES OF COLD CREAM:

1. **Moisturizing:** Provides hydration and keeps dry skin soft and smooth.
2. **Makeup Remover:** Gently dissolves makeup, including waterproof formulas, without irritating the skin.
3. **Soothing Dry Skin:** Helps relieve and repair dry, flaky, or chapped skin, especially in harsh weather conditions.
4. **Hand and Foot Care:** Helps soothe and nourish dry, cracked skin on hands and feet.
5. **Minor Skin Irritations:** Relieves discomfort from sunburn, windburn, or minor skin abrasions.
6. **Anti-aging:** Some formulations contain antioxidants or vitamin E, helping to hydrate and reduce the appearance of fine lines.
7. **Healing Dry Elbows and Knees:** Softens and heals rough, dry areas like elbows and knees.
8. **Night Cream:** Its rich consistency makes it ideal for nighttime use, providing intense moisture while you sleep.

ADVANTAGES OF COLD CREAM:

1. **Intense Moisturization:** Cold cream provides deep hydration, making it ideal for dry and dehydrated skin. It helps lock in moisture, keeping the skin soft and supple.
2. **Gentle Makeup Removal:** It effectively dissolves makeup, including waterproof formulas, without irritating or stripping the skin of its natural oils. This makes it a great option for sensitive skin.
3. **Soothes Irritated Skin:** Cold cream can help calm and soothe skin that is irritated by sunburn, windburn, or environmental factors. It provides relief to skin affected by dryness or minor abrasions.
4. **Protection against Harsh Weather:** The thick, emollient-rich formula creates a barrier that protects the skin from harsh environmental conditions, such as cold winds or extreme dryness.
5. **Rich in Nourishing Ingredients:** Many cold creams contain ingredients like beeswax, lanolin, and vitamin E, which are known for their skin-nourishing and healing properties.
6. **Prevents Skin Dryness:** By forming a protective layer on the skin, cold cream helps prevent moisture loss and combats skin dryness, especially in colder climates.
7. **Can Be Used as a Night Cream:** Due to its thicker consistency, cold cream works well as an overnight treatment, offering long-lasting hydration and repair while you sleep.

- 8. Non-Greasy yet Moisturizing:** Despite its rich texture, cold cream is designed to hydrate without leaving the skin feeling greasy, making it suitable for most skin types.

DISADVANTAGES OF COLD CREAM:

- 1. Greasy Feel:** Cold cream's rich, emollient texture may feel greasy or heavy on the skin, especially for those with oily or acne-prone skin. This could lead to clogged pores or breakouts in some individuals.
- 2. Not Ideal for Oily Skin:** Due to its high oil content, cold cream may not be suitable for individuals with oily or combination skin, as it can exacerbate oiliness and cause shine.
- 3. Potential for Allergic Reactions:** Some people may be sensitive to certain ingredients in cold cream, such as lanolin, fragrances, or preservatives, leading to irritation or allergic reactions, especially for those with sensitive skin.
- 4. Not for Daily Use on All Skin Types:** While beneficial for dry skin, its heavy formulation may be too intense for normal or oily skin to use regularly. It might be better suited for night time or targeted treatment rather than daily use.

PREPARATION METHOD:

The cold creams are prepared by the following steps:

- Beeswax is melted in a container on a water bath maintained at 70% temperature and added with mineral oil; this is mixture A (oily phase).
- Water is heated in another container at the same temperature and added with borax; this is mixture B (aqueous phase).
- Mixture B is slowly added to the mixture A with stirring to form a creamy emulsion.
- In the last step, the preparation is brought down to 40°C temperature added with a suitable perfume.
- Formulation and Preparation of Cold Cream Raw materials and Apparatus Raw materials as per formula. Cold creams may be formulated with oils, both or either mineral oil and vegetable oil, as well as fatty alcohols, fatty acids, and fatty esters, emulsifying agents, preservatives, and purified water.

HERBAL DRUG AND EXCIPIENT PROFILE:

1. BESS WAX:

Beeswax is a natural substance produced by honeybees that serves various purposes in both the animal world and human industries. Composed primarily of fatty acids, esters, and hydrocarbons, beeswax has been used for thousands of years in skincare, cosmetics,

medicine, and even in food preservation.

In skincare products, beeswax acts as an emollient, helping to lock in moisture and form a protective barrier on the skin. Its anti-inflammatory, antibacterial, and antifungal properties make it beneficial for soothing and healing minor cuts, burns, and skin irritations.

Beeswax also provides texture and stability to creams, lotions, and balms, enhancing their effectiveness. Additionally, it is commonly found in candles, as it burns cleaner than paraffin, and is used in coatings for various products, including fruits and cheese. Despite its widespread applications, beeswax remains a renewable, eco-friendly material, valued for its natural composition and versatility.



Beyond personal care, beeswax is widely used in candle-making due to its clean-burning qualities and pleasant, natural fragrance. It is also used as a lubricant for tools, a wood and leather polish, and even in food preservation—such as beeswax wraps that serve as a sustainable alternative to plastic wrap. The natural and eco-friendly nature of beeswax, combined with its long shelf life and renewable sourcing from beekeeping, make it a popular choice in natural living and sustainable product development.

2. BORAX:

Borax, also known as sodium borate, is a naturally occurring mineral compound that has a wide range of applications in various industries. Composed of boron, oxygen, and sodium, borax has been used for centuries for its cleaning, preservative, and antifungal properties. In

household cleaning, it is commonly used as a detergent booster, stain remover, and deodorizer due to its ability to break down grease and grime. Borax is also utilized in cosmetics, as an emulsifier and stabilizer, and in the manufacture of glass, ceramics, and fiberglass. Additionally, it is a key ingredient in the production of flame retardants and water treatment chemicals. While borax has numerous benefits, its use has raised concerns due to its potential toxicity when ingested or overexposed to the skin, making it important to handle with care. Despite these concerns, borax remains a versatile and valuable compound, especially in cleaning and industrial applications.



Borax is widely used in the biochemistry field to make buffer solutions. This compound is also used as a texturing agent in several cooking methods. It is also used in neutron capturing shields to keep radioactive materials safe to store, transport, and use. Borax is also known to be an anti-fungal, so it can be used to kill fungi or stop them from growing.

Industrial applications of borax are broad and significant. It plays a role in glass and ceramics manufacturing, metallurgy, flame retardants, and even in the production of fiberglass. Borax is also a key component in making slime, a popular educational and recreational science project for children. Despite its many uses, borax should be handled with care. While it is generally considered safe for household use in small quantities, ingesting large amounts or prolonged exposure to the skin or eyes can cause irritation and health issues. For this reason, it is important to use borax responsibly, following appropriate safety guidelines.

3. LIQUID PARAFFIN:

Liquid paraffin, also known as mineral oil, is a refined, colourless, and odourless hydrocarbon derived from petroleum. It is widely used in various industries, particularly in pharmaceuticals, cosmetics, and manufacturing. In medicine, liquid paraffin serves as a laxative to treat constipation by softening stool and easing bowel movements. It is also used in skincare products due to its ability to lock in moisture and provide a protective barrier, making it beneficial for dry or sensitive skin. Additionally, liquid paraffin is utilized in the formulation of creams, lotions, and ointments, offering smooth application and stability. In industrial applications, it is employed as a lubricant, coolant, and in the production of candles. While liquid paraffin is generally considered safe for external use, it has raised some health concerns regarding its potential to cause skin irritation or adverse effects when ingested in large amounts. Despite these concerns, liquid paraffin remains a widely used and versatile substance due to its hydrating, emollient, and industrial properties.



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.

In medicine, liquid paraffin is most commonly used as a gentle laxative to relieve constipation. It works by coating the bowel and stool with a waterproof film, allowing for smoother passage and reducing discomfort. It is also frequently used as a base in ointments and creams to treat dry skin conditions such as eczema, psoriasis, and dermatitis. Because it forms a barrier that locks in moisture, it helps soothe irritated skin and prevent further dehydration. Liquid

paraffin is non-comedogenic, meaning it doesn't clog pores, which adds to its appeal in skincare products like moisturizers, lip balms, and baby oils.

4. ROSE OIL:

Rose oil, often referred to as rose essential oil, is a luxurious and highly aromatic oil derived primarily from the petals of *Rosa damascena* (Damask rose) and *Rosa centifolia* (Cabbage rose). It is obtained through two main methods: steam distillation and solvent extraction. Steam distillation produces a purer form of essential oil known as rose otto, while solvent extraction yields rose absolute, which is more concentrated and often used in high-end perfumery. Producing rose oil is a meticulous and labor-intensive process—it can take thousands of rose petals to extract just a few milliliters of oil, which is why it is one of the most expensive essential oils in the world.



In aromatherapy and natural medicine, rose oil is prized for its therapeutic benefits. It is known for its calming and mood-enhancing properties, often used to relieve stress, anxiety, and symptoms of depression. The gentle floral aroma is believed to uplift the spirit and promote emotional balance. Additionally, rose oil has potent anti-inflammatory, antimicrobial, and antioxidant effects, making it an excellent ingredient in skincare. It helps soothe irritated skin, reduce redness, and support skin regeneration, which is why it's commonly found in creams, serums, and facial oils aimed at sensitive or mature skin.

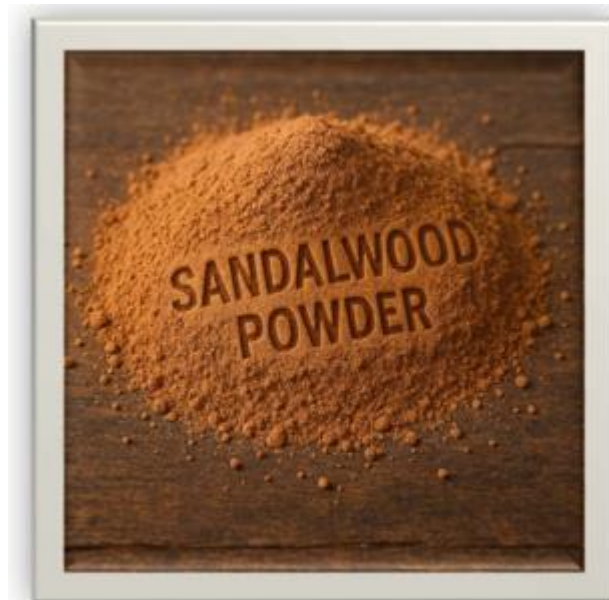
Beyond its cosmetic and therapeutic uses, rose oil holds cultural and symbolic significance across many traditions. It has been used in religious ceremonies, romantic rituals, and luxury

wellness products for centuries. Its timeless scent and numerous health benefits continue to make it a sought-after ingredient in both traditional and modern wellness practices.

5. SANDALWOOD:

Sandalwood powder is a finely ground substance derived from the heartwood of the sandalwood tree (*Santalum album*), a species native to India and other parts of Asia. Known for its aromatic fragrance and a wide array of medicinal and cosmetic uses, sandalwood powder has a rich history that spans thousands of years. It has been highly valued in both traditional medicine and cultural practices, particularly in Ayurveda and various spiritual rituals.

In skincare, sandalwood powder is renowned for its soothing, anti-inflammatory, and antiseptic properties, making it an ideal ingredient in a variety of skincare products. It is frequently used in face packs, creams, and masks to treat acne, blemishes, and uneven skin tone. The powder helps to reduce redness, control oil production, and improve skin complexion by promoting a healthy, radiant glow. It is particularly beneficial for sensitive or irritated skin, as it has a calming effect and reduces the risk of skin infections due to its antibacterial and antifungal properties.



However, the widespread demand for sandalwood has raised concerns regarding the sustainability of its harvesting. The sandalwood tree takes decades to mature, and the high demand for its wood has led to overharvesting, which threatens its natural populations. Efforts have been made to cultivate sandalwood sustainably and promote responsible

sourcing practices to ensure its availability for future generations.

The powder's use extends beyond cosmetic applications. In traditional medicine, sandalwood powder is believed to have a range of therapeutic benefits. It has been employed in Ayurvedic treatments to balance the body's doshas, promote mental clarity, and reduce stress. Sandalwood is considered a natural coolant and is used to alleviate conditions such as digestive issues, headaches, and urinary tract infections. Its anti-inflammatory effects also make it useful in managing skin conditions like eczema, psoriasis, and dermatitis. Furthermore, the powder's ability to soothe and calm the mind has made it an integral component in meditation practices, where it is burned as incense or applied to the skin during rituals to foster relaxation and spiritual connection.

In conclusion, sandalwood powder is a versatile and valuable natural product with a rich cultural and therapeutic heritage. It offers a wide range of benefits in skincare, traditional medicine, and spiritual practices. While its use continues to grow globally, it is crucial to promote sustainable practices to ensure the long-term availability of this precious resource, preserving both its ecological and cultural significance.

BENEFITS:

Sandalwood is widely recognized for its numerous benefits for the skin, thanks to its soothing, anti-inflammatory, and antimicrobial properties. Here are some key benefits of sandalwood for skin:

1. Promotes a Clear Complexion

Sandalwood is known to help even out skin tone and improve complexion. Its gentle exfoliating properties can help remove dead skin cells, revealing a smoother, brighter appearance. Regular use of sandalwood helps diminish dark spots, hyperpigmentation, and blemishes, leading to a clearer, more radiant complexion.

2. Treats Acne and Blemishes

Sandalwood powder has antimicrobial and antibacterial properties, making it highly effective in treating acne and preventing further breakouts. It helps to reduce inflammation and soothe the skin, providing relief from redness, irritation, and swelling caused by acne. Sandalwood's ability to control oil production also helps balance skin, reducing the chances of clogged pores, which contribute to acne formation.

3. Calms Inflammation and Reduces Redness

Sandalwood has anti-inflammatory properties that can soothe irritated or inflamed skin. It helps reduce redness and calm conditions such as eczema, psoriasis, or rosacea. Sandalwood paste

or cream applied to the skin can provide relief from skin irritations and reduce swelling, making it a popular choice for sensitive skin.

4. Moisturizes Dry Skin

Sandalwood is known for its ability to hydrate and lock in moisture. It helps to nourish dry and parched skin, leaving it feeling soft and smooth. Its emollient nature ensures that the skin remains moisturized for long periods, making it especially useful for those with dry skin conditions.

5. Anti-Aging Benefits

The antioxidant-rich properties of sandalwood help protect the skin from the harmful effects of free radicals, which contribute to premature aging. Sandalwood helps prevent the formation of fine lines, wrinkles, and age spots by promoting healthy skin regeneration and maintaining skin elasticity.

6. Helps Treat Sunburns

Sandalwood has a cooling effect on the skin, making it an excellent remedy for sunburn. It can soothe the skin, reduce redness, and promote healing. The anti-inflammatory properties of sandalwood help minimize the pain and discomfort associated with sunburn, while its healing abilities help repair damaged skin.

7. Fights Skin Infections

Due to its natural antibacterial and antifungal properties, sandalwood is effective in treating and preventing skin infections. It helps cleanse the skin, reducing the risk of infections, and can be applied to minor cuts, wounds, or fungal infections like athlete's foot to promote faster healing.

8. Tightens and Firms Skin

Sandalwood has skin-toning and tightening effects, helping to firm the skin and reduce sagging over time. This makes it an excellent ingredient in anti-aging skincare products, as it helps maintain the skin's youthful appearance and elasticity.

9. Reduces Excess Oil Production

For individuals with oily skin, sandalwood helps balance oil production. By controlling excess sebum, sandalwood prevents clogged pores and breakouts while maintaining the skin's moisture balance, making it ideal for combination or oily skin types.

10. Improves Skin Texture

Regular use of sandalwood can improve skin texture by promoting a smoother, softer surface. Its ability to exfoliate gently, along with its hydrating properties, results in skin that feels rejuvenated and looks more polished.

How to Use Sandalwood for Skin:

1. **Face Packs and Masks:** Mix sandalwood powder with water, rose water, or honey to create a soothing paste. Apply it to the face as a mask and leave it on for 15-20 minutes before rinsing off.
2. **Sandalwood Oil:** You can apply sandalwood essential oil directly to the skin, diluted with a carrier oil, for targeted treatment of acne or inflammation.
3. **Creams and Lotions:** Sandalwood is often included in ready-made creams, lotions, and serums, making it easy to incorporate into your skincare routine.

MATERIAL AND METHOD:

MATERIAL:

SR NO.	INGREDIENTS	ROLE
1	Sandal Wood	Anti-inflammatory, Anti-microbial
2	Bees Wax	It gives Thickness
3	Borax	Foaming Agent
4	Liquid Paraffin	Lubricating Agent
5	Rose Oil	Fragrance
6	Methyl P-Hydroxy Benzoate	Preservative

SR NO.	INSTRUMENT
1	Beaker
2	Glass rod
3	Thermometer
4	Heating mantle
5	Measuring Cylinder
6	Weighing machine
7	Mortar and Pestle

METHODS:

Bee's wax, liquid paraffin, borax, methylparaben, distilled water, rose oil, and sandalwood were used to make the cream base. The cream was prepared by using the slab technique/extemporaneous method for geometric and homogenous mixing of all the excipients and the aloe extract.

By using slab technique, we have developed two batches of our herbal cream, namely. All two batches were evaluated for different parameters like appearance, PH, viscosity, phase separation.

FORMULATION OF SANDALWOOD CREAM: FORMULATION TABLE:

SR NO.	INGREDIENTS	FORMULA
1	Sandal Wood	1 gm
2	Bees Wax	15 gm
3	Borax	0.8 gm
4	Liquid Paraffin	20 ml
5	Rose Oil	2 drops
6	Methyl P-Hydroxy Benzoate	0.5 gm

SR NO.	INGREDIENTS	FORMULA
1	Sandal Wood	1.5 gm
2	Bees Wax	12 gm
3	Borax	0.7 gm
4	Liquid Paraffin	15 ml
5	Rose Oil	2 drops
6	Methyl P-Hydroxy Benzoate	0.2 gm

SR NO.	INGREDIENTS	FORMULA
1	Sandal Wood	1 gm
2	Bees Wax	10 gm
3	Borax	0.8 gm
4	Liquid Paraffin	12 ml
5	Rose Oil	2 drops
6	Methyl P-Hydroxy Benzoate	0.3 gm

SR NO.	INGREDIENTS	FORMULA
1	Sandal Wood	2 gm
2	Bees Wax	17 gm
3	Borax	0.7 gm
4	Liquid Paraffin	20 ml
5	Rose Oil	2 drops
6	Methyl P-Hydroxy Benzoate	0.4 gm

FORMULATION PROCEDURE:

- In a borosilicate glass beaker, heat liquid paraffin and beeswax to 75 °C and maintain that temperature (Oil phase).
- Borax and methyl paraben should be dissolved in distilled water and heated to 75 °C in another beaker to produce a clear solution (water phase).
- After that, gradually add this aqueous phase to the heated oily phase.
- Then, add a small amount of sandalwood and vigorously stir until the mixture resembles a creamy consistency.
- Then add few drops of rose oil as a fragrance.
- Put this cream on the slab and add few drops of distilled water if necessary and mix the

cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients properly.

- The term "slab technique" or "extemporaneous method" refers to this method of making cream.

EVALUATION OF SANDALWOOD COLD CREAM: PHYSICAL EVALUATION:

Appearance:

Assess the colour, texture, and general appearance of the cold cream. It should have a smooth, uniform consistency without any visible separation of oil and water.

pH Level:

Measure the pH of the cold cream using a pH meter or pH strips. The ideal pH for a skin cream is between 4.5 and 5.5.

Viscosity:

Measure the cream's viscosity using a Brookfield viscometer. This test determines the thickness and flow properties of the cream, which is important for the spread ability and consumer satisfaction.

PERFORMANCE EVALUATION:

Spread ability Test:

Spread ability can be assessed using the spread ability tester or a simpler method: apply a fixed amount of cream to a surface and measure the distance it spreads under a constant force. The easier it spreads, the better its spread ability.

Emulsion Stability:

Subject the cream to thermal cycling tests (alternating between cold and warm temperatures) to determine if the emulsion remains stable without phase separation, cracking, or the formation of water droplets.

Moisturization Effect:

Perform a moisturization test by applying the cold cream to the skin and measuring the skin hydration levels before and after application using a moisture meter (such as a corneometer). This test shows how well the cream locks in moisture.

Skin Irritation Test:

A patch test can be performed on volunteers to ensure the cold cream does not cause allergic reactions or irritation. Apply a small amount of cream to a small patch of skin and observe for any redness or irritation.

RESULTS:

Physical observation

SR NO.	PARAMETERS	F1	F2	F3	F4
1	Colour	Light Brown	Brownish	Light Brown	Brownish
2	Odour	Pleasant	Pleasant	Pleasant	Pleasant
3	Texture	Smooth	Smooth	Smooth	Smooth(Oily)
4	State	Semi-solid	Semi-solid	Semi-solid	Semi-solid

Wash ability observation

WASH ABILITY
Easily Washable

Sensitivity study observation

SR NO.	PARAMETERS	OBSERVATION
1	Irritation effect	No
2	Erythema	No
3	Edema	No

pH

pH
5.9

CONCLUSION:

The formulation and evaluation of an herbal cold cream using sandalwood powder have demonstrated promising results in the development of a natural, effective, and

multifunctional skincare product. Sandalwood, with its renowned anti-inflammatory, antimicrobial, and soothing properties, proved to be an excellent addition to the cold cream formulation, providing several benefits for the skin, such as moisturizing, healing, and calming effects.

The herbal cold cream using sandalwood powder has been successfully formulated, offering multiple benefits for skin health, including moisturization, anti-inflammatory action, and a soothing effect. The evaluation results indicate that this cold cream can be a valuable addition to natural skincare regimens, providing both immediate and long-term benefits for dry, sensitive, and irritated skin.

The formulation's success highlights the potential of integrating herbal ingredients like sandalwood into modern skincare products. Future improvements could involve refining the formula to suit a broader range of skin types, including those with oily skin, and ensuring sustainable sandalwood sourcing to meet both ethical and environmental considerations.

Overall, this herbal cold cream represents an effective and eco-friendly skincare solution, harnessing the power of sandalwood for skin health while maintaining the essential properties of a traditional cold cream.

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