



Formulation And Evaluation Of Herbal Cold Cream By Sandal Wood Oil

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ABSTRACT:

Cold cream is a water in oil (W/O) emulsion, Also, it is known as Fatty Cream according to European Pharmacopoeia. Outcomes of this article: Uses of Cold Cream, Formulation of Cold Cream, Preparation of Cold Cream, Tests of Cold Cream, History and Ideal properties of cold cream. Before the 1st century, many druggists would compound the rosewater cream and keep it fresh on ice, to make it cold as a skin cream. Coldcream was originally described as the Latin word “refrigeran” meaning “making cold” because when applied, the water evaporates and creates a cooling sensation

A cosmetic product is defined as any Substance or preparation Intended to be placed in contact with the Various external part of human body. [Epidermis, hair system, nail. Lips, and external genital organ or with the teeth and mucous membrane of the Oral cavity with a view exclusively. or mainly to cleaning them. Perfuming them changing their appearance or correcting body odour and protecting them Condition keeping good them.

The formulated cream showed good consistency and spread ability, pH, no evidence of phase separation during study periodof research. Stability parameters like visual appearance, nature, viscosity and fragrance ofthe formulated cream showed that therewas no significant variation during the study period of research. The herbal extract containing cold cream gives the cooling and soothing effect due to slow evaporation of water present in the emulsion.

The cold creams are more moisturizing as they provide an oily barrier which reduces the water loss fromthe 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 localized and sometimes systemic effect at thesite 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.

INTRODUCTION COLD CREAM

Cosmetics word is derived from the Greek word "Kosmtikos" which means the power, organization and skill in beautifying.

The word cosmetics is defined

- As per Drug and cosmetic Act (Indian Act):-

Cosmetic means any article Intended to be rubbed, poured, sprinkled, spread all or introduced into, or otherwise applied to human body or other any part they're of for cleaning. Beautifying, promoting, attractiveness appearance and include Intended for use of a component of cosmetics.

- As per European pharmacopeia, Commission.

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

Sandalwood oil contains antioxidants that help maintain the buoyancy and structure of the skin cells. It also reduces dryness and replenishes the moisture in skin, increasing elasticity. "Due to the rich antioxidant component, sandalwood can help prevent wrinkles by fighting free radical formation," Bhanote says.

Almost all modern cold creams have replaced the plant oils with mineral oil and have added alcohol, glycerin, and lanolin. Beginning in the 1970s, jojoba oil became a common ingredient, used as a substitute of spermaceti from whales. Widely sold brands of cold cream in the United States include Pond's [6] and Noxzema.

Over the centuries, new uses have been found for the product: "As a toilet requisite cold cream is used for softening and cooling the skin after sunburn, as a cleansing cream, to relieve harshness of the skin, etc." [8]

Lush sells a cleanser, under the name Ultrabland, that most closely follows the original recipe attributed to Galen; it uses plant oils instead of mineral oils as the base of the cream.

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 odour, such as that of camphor, almond, violet, roses, &c.

Literature Review

- 1) **Manisha Yogesh Sonalkar et al.** formulated a poly herbal cream and evaluated. Cosmetics are the preparations which used to beautify and enhance the human appearances. The aim of the present research was to formulate and evaluate the aloe cold containing plant extracts prepared by using water in oil method for the purpose of nourishing and moistening the skin. The cold cream is prepared by using the rose oil and extract of aloe vera. Quality evaluation of the formulated product was assessed by using different evaluation methods. No change of the physical properties was observed in formulated cream. The formulated cream showed good consistency and spread ability, pH, no evidence of phase separation during study period of research. Stability parameters like visual appearance, nature, viscosity and fragrance of the formulated cream showed that there was no significant variation during the study period of research. The herbal extract containing cold cream gives the cooling and soothing effect due to slow evaporation of water present in the emulsion. 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.
- 2) **Shaha et al.** studied how In the creams were formulated based on the anti-oxidant potential of herbal extracts and its evaluation. Selected plant parts are dried and extracted using 70% alcohol by maceration. The extract was tested for antioxidant activity by superoxide scavenging activity. Quality evaluation of the product was assessed by using different evaluation methods. No change of the physical properties was observed; the pH was in a proper range (approximately pH6). The marker Curcumin was present in the extract, formulation and the peak was comparable with standard Curcumin obtained by HPLC
- 3) **. Mishra B et al.** studied the aim of the present study is to formulate and evaluate cold cream enriched with vitamin E and almond oil providing moisturizing effect. The cold cream was prepared by incorporating beeswax, borax, sweet almond oil, vitamin E and all other excipients. Fusion method is used for the formulation of the cold cream. Five different formulations are prepared and evaluated for the compliance with the pharmacopoeial parameters. All the prepared formulations are evaluated for the various parameters like pH, color, homogeneity test, viscosity, rheological studies, stability studies, etc. Among all the formulations, F4 shows the best result and all the parameters comply with the IP standards. Stability studies proved that there are no significant changes in the formulated cold cream
- 4) **Anuradha Keshwar et al.** formulated a poly herbal cream and evaluated the cold cream. In day to day practice the medicinal plants or herbs are widely used by the traditional practitioners for curing various diseases. There is an increase in demand for plant based medicines, cosmetics, health products, food supplements and various pharmaceutical products.

AIM:-

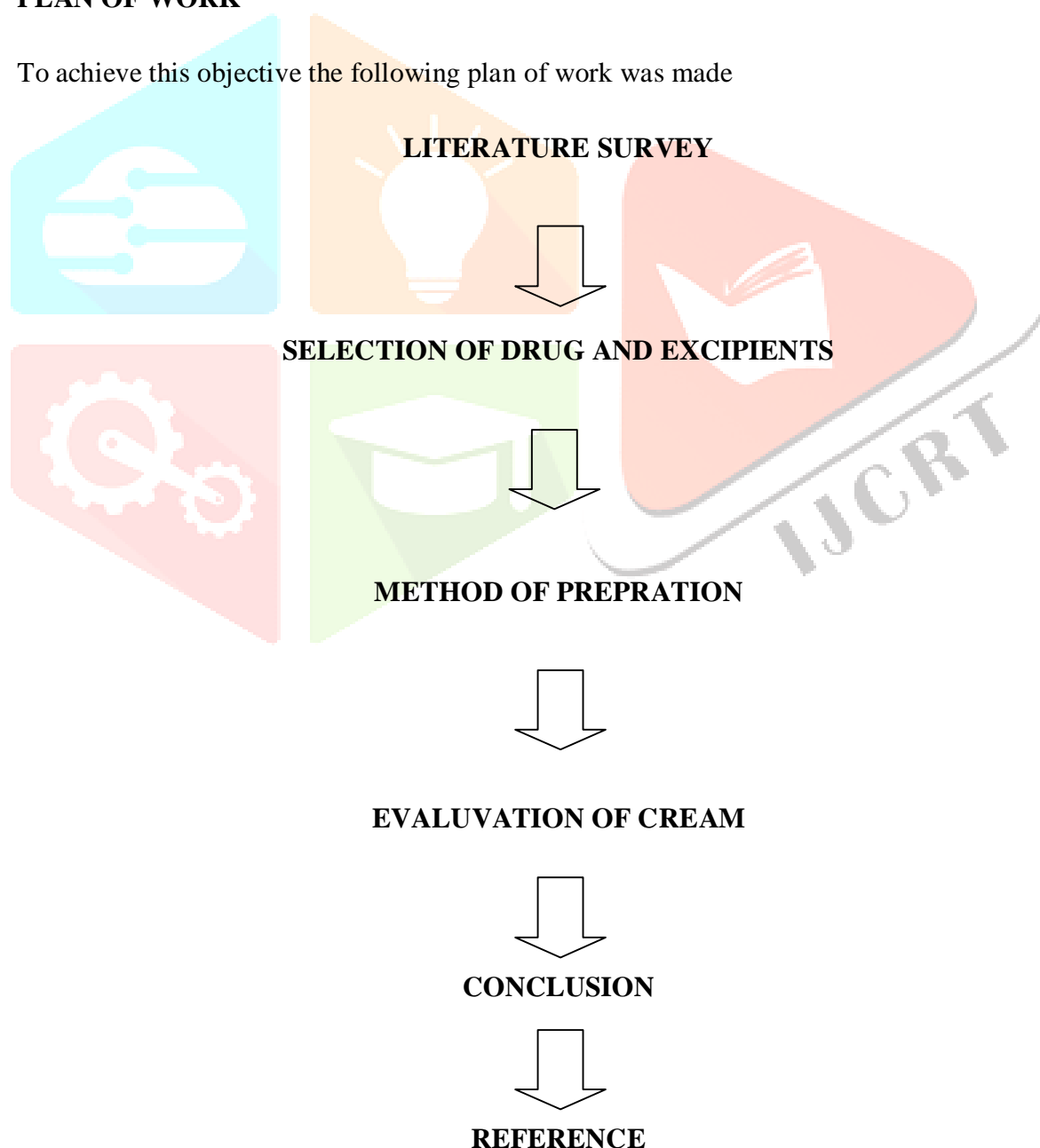
Formulation And Evaluation Of Herbal Cold Cream By Sandal Wood Oil

OBJECTIVE:

1. To prepare the cream by using the emulsification technique.
2. To made 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 a herbal cold cream for shining skin by using natural herbalproduct
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.

PLAN OF WORK

To achieve this objective the following plan of work was made



HUMAN SKIN :

The skin is the body's largest organ. It covers the entire body. It serves as a protective shield against heat, light, injury 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.

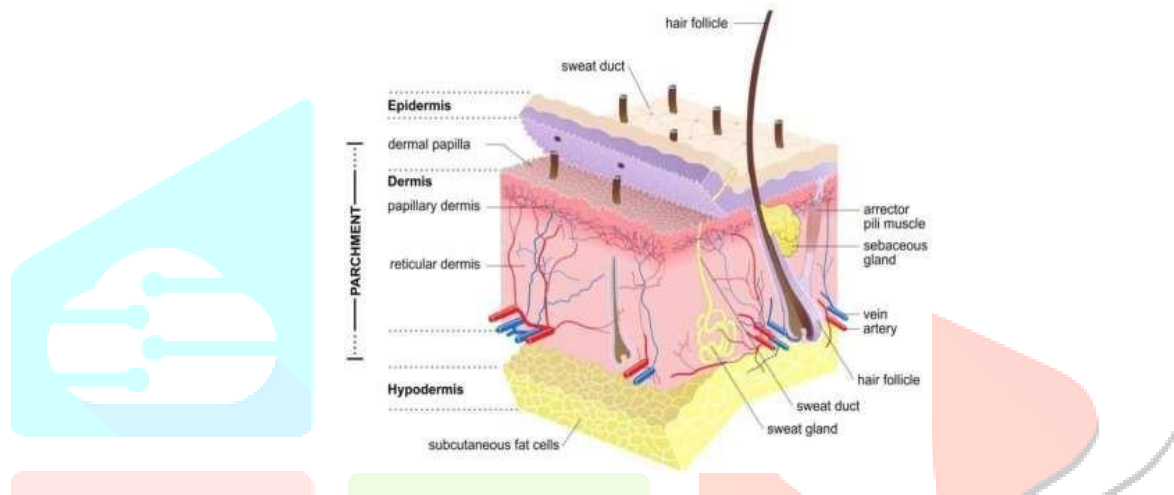


FIG 1: HUMAN SKIN

The skin is the body's largest organ, made of water, protein, fats and minerals. Your skin protects your body from germs and regulates body temperature. Nerves in the skin help you feel sensations like hot and cold.

human skin, in human anatomy, the covering, or integument, of the body's surface that both provides protection and receives sensory stimuli from the external environment. The skin consists of three layers of tissue: the epidermis, an outermost layer that contains the primary protective structure, the stratum corneum; the dermis, a fibrous layer that supports and strengthens the epidermis; and the subcutis, a subcutaneous layer of fat beneath the dermis that supplies nutrients to the other two layers and that cushions and insulates the body. Human skin, more than that of any other mammal, exhibits striking topographic differences. An example is the dissimilarity between the palms and the backs of the hands and fingers. The skin of the eyebrows is thick, coarse, and hairy; that on the eyelids is thin, smooth, and covered with almost invisible hairs. The face is seldom visibly haired on the forehead and cheekbones. It is completely hairless in the vermilion border of the lips, yet coarsely hairy over the chin and jaws of males.

SKIN CARE PRODUCT

- 1) Face wash
- 2) Moisturising cream
- 3) Vanishing cream
- 4) Cold cream

FACEWASH

In this case, a cleanser is a facial care product that is used to remove make-up, skin care product residue, microbes, dead skin cells, oils, sweat, dirt and other types of daily pollutants from the face. These washing aids help prevent filth-accumulation, infections, pores clogs, irritation and cosmetic issues like dullness from dead skin buildup & excessive skin shine from sebum buildup. This can also aid in preventing or treating certain skin conditions; such as acne. Cleansing is the first step in a skin care regimen and can be used in addition of a toner and moisturizer, following cleansing or using makeup remover cotton and makeup remover. Bar cleansers have thickeners that allow them to assume a bar shape. These thickeners can clog pores, which may lead to pimples in susceptible individuals.[citation needed][2] Wet dry shampoos, face wash and body washes are often labeled as "bar cleansers" because they have thickeners that allow them to assume a bar shape. These thickeners can clog pores, which may lead to pimples in susceptible individuals.

Using bar soap on the face can remove natural oils from the skin that form a barrier against water loss.

MOISTURIZING CREAM

A face moisturizer is a lotion, or cream emulsion, ointment or balm formulated with emollients that help skin stay hydrated. Moisturizers hydrate the surface layers of the skin. Their main skin benefit is that they seal the skin, locking in moisture and nutrients, while protecting the skin from environmental irritants.

Moisturizers are used for the treatment of certain skin diseases, such as psoriasis, ichthyosis vulgaris, xerosis, and pruritus in atopic dermatitis. More often, they are bases or vehicles for topical medication, such as in Whitfield's ointment. They are often combined with humectants, such as salicylic acid and urea.

Moisturizers are also widely used in sunscreens, antiperspirants, skin cleansers, shaving creams, aftershaves,

VANISHING CREAM

Vanishing creams get their name from the fact that they seem to disappear when spread on the skin. It is also known as foundation cream which are applied to skin to provide a smooth emollient base before the application of face powder and other face make up. Vanishing creams also known for their smooth, dry feel on the skin and their pearly sheen. Chemically they are oil-in-water emulsions consisting of stearic acid, an alkali, a polyol and water. The cream helps the powder to adhere to the skin and also acts as skin protectant which prevents the damaging effect caused by the environmental factors.. One characteristic due to which these vanishing creams are preferred is the 'sheen effect'

COLD CREAM:

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 (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 a 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 Unguentum or Ceratum Refrigerans. 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. Cold cream was first invented by Galen, a famous Greek physician-pharmacist in the Roman Empire (who practiced in Rome) of the 1st Century AD.



Fig 2 :- herbal cold cream

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

Uses of cold cream depend on the ingredients of a cream which means functional ingredients define the uses of cold cream. The main uses of cold cream are as follows:

Medicated cold cream is mainly used as a topical pharmaceutical dosage form for the treatment of skin.

Helps to maintain the skin's moisture balance and avoid rough skin conditions. It is one of the primary uses of cold cream (non-medicated).

As a cleansing preparation to remove make-up. To provide an emollient effect.

To provide an oily protective layer on the skin.

Also, provide a chemical barrier as with sunblock ingredients.

As a carrier for drug substances such as diflucortolone valerate in medicated cream. To remove oil-soluble impurities from the skin.

ADVANTAGES OF COLD CREAM:

- 1) The primary use of the cream is for skin treatment. o Mineral ingredients in the cream, work as a moisturizer.
- 2) Generally useful for dry skin. o It can also be used as an alternative for lip balm if you have very dry, chapped lips. o It can be used as a makeup remover and cleanser.
- 3) Sometimes it is applied to the face before putting on any makeup.
- 4) It can be used as an alternative to shaving cream.
- 5) With a hot washcloth it can help exfoliate the skin.
- 6) As cold creams contain enough amounts of water and oil, they keep skin safe from the rough environments.
- 7) They also keep skin moisturized and safe from damages.

DISADVANTAGES OF COLD CREAM:

- 1) However, as they contain petroleum, that might block the evaporation of water, they often clog pores resulting in pimples,
- 2) They might also darken the complexion if overused.
- 3) Cold cream is quite heavy in consistency. o It will feel very "greasy" on the application.
- 4) Also, people living in hot, humid weather will find this too heavy.

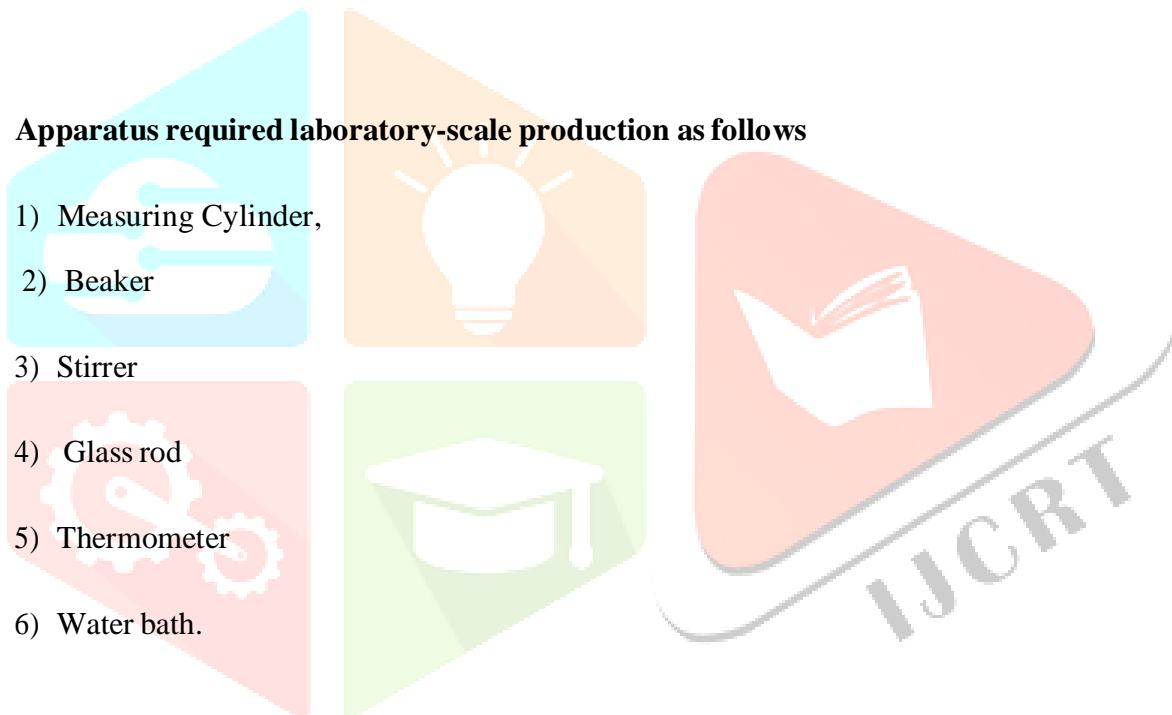
PREPARATION METHOD

- 1) The cold creams are prepared by the following steps:
- 2) 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).
- 3) Water is heated in another container at the same temperature and added with borax; this is mixture B (aqueous phase).
- 4) Mixture B is slowly added to the mixture A with stirring to form a creamy emulsion.
- 5) 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.

Apparatus required laboratory-scale production as follows

- 1) Measuring Cylinder,
- 2) Beaker
- 3) Stirrer
- 4) Glass rod
- 5) Thermometer
- 6) Water bath.



HERBAL DRUG AND EXCIPIENT PROFILE:

1. BESS WAX

Beeswax is one of the most important ingredients in home-made cosmetics. Why on earth I haven't yet written a word about beeswax? Maybe beeswax is just so self-evident that I 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, Cranauba Biological source: It is a product made from the honeycomb of the honeybee and other bees.

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.

1. BORAX

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.



Fig 4:- borax

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. Paint and ceramic glaze

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 cross-linking 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, transportation, 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.

2. 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.



Fig 5:- liquid paraffine

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.

3. SANDAL WOOD

Also known as: chandan,

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 oil is extracted from the woods for use. Sandalwood is often cited as one of the most expensive woods in the world.

Sandalwood oil contains antioxidants that help maintain the buoyancy and structure of the skin cells. It also reduces dryness and replenishes the moisture in skin, increasing elasticity. "Due to the rich antioxidant component, sandalwood can help prevent wrinkles by fighting free radical formation," Bhanote says.

The active ingredient of sandalwood album oil, alpha-santalol, has been used as a remedy for a number of ailments including common cold, urinary tract infections, digestive problems among others.

Some uses of the chandan (sandalwood) tree are as follows:

- (i) Sandalwood is carved into various handicrafts such as boxes, jewel cases, combs, picture frames, pen holders
- (ii) The oil extracted from the sandalwood is used in perfumes, cosmetics and medicines.
- (iii) Wood and oil is also used for various religious rituals mainly by the Hindus and the Buddhists. Sandalwood

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(vii) sandalwood oil has been used as an antiseptic 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 oil is extracted from the woods for use. Sandalwood is often cited as one of the most expensive woods in the world. Both the wood and the oil produce a distinctive fragrance that has been highly valued for centuries. Consequently, some species of these slow-growing trees have suffered over-harvesting in the past.

Producing commercially valuable sandalwood with high levels of fragrance oils requires Indian sandalwood (*S. album*) trees to be a minimum of 15 years old – the yield, quality and volume are still to be clearly understood. Yield of oil tends to vary depending on the age and location of the tree; usually, the older trees yield the highest oil content and quality. Australia is the largest producer of *S. album*, with the majority grown around Kununurra, in the far north of the state by Quintis (formerly Tropical Forestry Services), which in 2017 controlled around 80% of the world's supply of Indian sandalwood, [17] and Santanol. [18] India used to be the world's biggest producer, but it has been overtaken by Australia in the 21st century. Over-exploitation is partly to blame for the decline.



BENEFITS

Sandalwood oil contains antioxidants that help maintain the buoyancy and structure of the skin cells. It also reduces dryness and replenishes the moisture in skin, increasing elasticity. "Due to the rich antioxidant component, sandalwood can help prevent wrinkles by fighting free radical formation," Bhanote say

Benefits Of Sandalwood For Skin

The uses of sandalwood powder on face are many. Not only does sandalwood help you get clear skin, it also helps you get rid of persistent skin-related issues. Let's tell you how:

1. Anti-ageing

Sandalwood is rich in antioxidants that prevent skin sagging and the consequent formation of wrinkles. It is also capable of fighting the damage caused by the presence of free radicals in the skin. Ayurveda reveres it for its anti-ageing properties that can make skin firmer, while also reversing sun damage. Isn't that amazing.

2. Fights acne

You can even use sandalwood to prevent those wretched pimples from popping out on your skin. The antiseptic properties of sandalwood reduce bacterial growth on the skin, which makes it very effective in treating acne, boils, and sores and preventing them from worsening.

3. Removes scarring

Sandalwood is known to heal your skin tissues. This healing property helps in getting rid of scars from wounds, blemishes, dark spots and eczema. You can also use sandalwood powder for skin whitening as it removes skin impurities to give you an even tone. This is why brides-to-be are advised to apply sandalwood on face to look flawless on their wedding day.

4. Soothes the skin

Sandalwood is rife with anti-inflammatory properties, which makes it an ideal remedy for sunburns and skin rashes. It heals skin irritation and itchiness caused by infections, insect bites, or product reactions and also prevents eruptions and acne.

5. Anti-tanning

The effects of a suntan can last for long if not treated quickly. Rubbing sandalwood oil or applying its paste on the affected parts can remove suntan gradually as well as reduce the redness and burning caused by overexposure to

1. METHYL P-HYDROXY BENZOATE –

The compound is widely used as a preservative for foods, cosmetics and medicines. Those methyl paraben-containing products caused contact dermatitis and drug hypersensitivity (Larson, 1977; Mowad, 2000), but there has been no fundamental study on allergic reactions related to methyl paraben. Methyl parahydroxy benzoate has been found to cause skin, eye, and respiratory irritations. . Since it is an endocrine disruptor, methyl parahydroxy benzoate can mimic the hormone estrogen and cause negative effects to glands that secrete reproductive hormones . Million Marker does not recommend that pregnant women or women trying to conceive expose themselves to methyl p- hydroxy benzoate



MATERIAL AND METHOD

Raw herbs collection Materials:

All crude drugs were collected from Kishori Collage of Pharmacy, Beed medicinal garden and Aditya Education Group Campus, Telgone naka ,Beed. The plant material collected was identified and authenticated by PROF MS ZINE SR Kishori College of Pharmacy, Beed

The materials used in the formulation of the cream is given in the table 1 and the equipments used are given in the table-2.

SR	INGREDIENTS	ROLES
1	SANDAL WOOD OIL	ANTI-INFLAMMATORY ANTI-MICROBIAL
2	BEEES WAX	IT GIVES THICKNESS
3	BORAX	FOAMING AGENT
4	LIQUID PARAFFIN	LUBRICATING AGENT
5	ROSE OIL	FRAGRANCE
6	METHYL P BENZOATE	PRESERVATIVE

SR. NO	INSTRUMENTS
01	Beaker
02	Glass rod
03	Thermometer
04	Heating mantle
05	Measuring cylinder
06	Weighing machine
07	Mortar and pestle

METHODS –

The cream was prepared by using the cream base that is bee's wax, liquid paraffin, borax, methylparaben, distilled water, rose oil, sandalwood . The cream was prepared by using the slab technique/extemporaneous method for geometric and homogenous mixing of all the excipients and the aloe extracts. 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

Heat liquid paraffin and beeswax in a borosilicate glass beaker at 75 °C and maintain that heating temperature. (Oil phase). In another beaker, dissolve borax, methyl paraben in distilled water and heat this beaker to 75 °C to dissolve borax and methyl paraben and to get a clear solution. (water phase). Then slowly add this aqueous phase to heated oily phase. Then add a measured amount of sandalwood and stir vigorously until it forms a smooth cream. 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. This method is called as slab technique or extemporaneous method of preparation of cream.

SR. NO	INGREDIENTS	FORMU	FORMU
		LAF1	LAF2
01	Bees wax	15 gm	20 gm
02	Borax	0.8 gm	0.8 gm
03	Liquid paraffin	50 gm	50 gm
04	Sandalwood	1 gm	1 gm
05	Rose water	33 gm	28 gm
06	Methyl p-hydroxy benzoate	0.2gm	0.2gm

Table-3 formulation of cold cream

EVALUATION OF SANDALWOOD OIL

1. Determination of Physical appearance

The physical appearance of cold cream was inspected visually against dark background. The average of three readings is recorded. The result is given in the table no 3

2. Homogeneity

Homogeneity of the formulated cold cream was tested for homogeneity by visual appearance and by touch.

After feeling emolliences, slipperiness and amount of residue left after the application of the fixed amount of cream was checked. Type of smear after application of cream, the type of film or smear formed on the skin were checked. Removal

The ease of removal of the cream applied was examined by washing the applied part with tap water.

3 Sensitivity test

The cream which was prepared has applied on skin of hand and exposed to sunlight for 4-5 mins



Sensitivity Test

4 Spread ability –

The spread ability was expressed in terms of time in seconds taken by two slides to slip off from the cream, placed in between the slides, under certain load. Lesser the time taken for separation of the two slides better the spread ability. Two sets of glass slides of standard dimension were taken. Then one slide of suitable dimension was taken and the cream formulation was placed on that slide. Then other slide was placed on the top of the. Then a weight or certain load was placed on the upper slide so that the cream between the two slides was pressed uniformly to form a thin layer. Then the weight was removed and excess of formulation adhering to the slides was scrapped off. The upper slide was allowed to slip off freely by the force of weight tied to it. The time taken by the upper slide to slip off was noted

Spread ability = $m \times l / t$ Where,

m = Standard weight which is tied to or placed over the upper slide (30g) l = length of a glass slide (5 cm) t = time taken in seconds.



5 pH

The pH of sandalwood cold cream was determined using pH meter. The most accurate common means of measuring pH is through a lab device called a probe and meter, or simply a pH meter. The probe consists of a glass electrode through which a small voltage is passed. The meter is a voltmeter, measures the electronic impedance in the glass electrode and displays pH units instead of volts. Measurement is made by submerging the probe in the semisolid until a reading is registered by the meter.

RESULTS

❖ Physical observation – Table no 4

SR.NO	PARAMETER	FORMULA F1	FORMULA F2
01	Colour	Faint green	Faint green
02	Odour	Pleasant	Pleasant
03	Texture	Smooth	Smooth
04	State	Semi solid	Semi solid

❖ Washability observation – Table no 5

SR.NO	FORMULATION	WASHABILITY
01	F1	Easily washable
02	F2	Easily washable

❖ Sensitivity study observation – Table no 6

SR.NO	FORMULATION	IRRITANT EFFECT	ERYTHEMA	EDEMA
01	F1	No	No	No
02	F2	No	No	No

❖ pH – Table no 7

SL.no	Formulation	pH
01	F1	5.9
02	F2	6.5

CONCLUSION

By using sandalwood the cream showed a multipurpose effect and all these aloe ingredients showed significant different activities. Based on results and discussion, the formulations F1, and F2 were stable at room temperature and can be safely used on the skin. However, the formula 1 showed the best results in all aspects.

From the above results it is concluded that the formulated cream showed good consistency and spread ability, 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 has 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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