

Review on Formulation and Evaluation of Herbal Solid Perfumes

**Komal S. Kolhe¹, Bhagyashri G. Chaudhari¹, Lochana K. Ranbawale¹, Mayuri G. Wagh¹
Mayuri R. Bore¹, Prof. S. L. Khedekar¹, R. H. Kale²**

PRMSS Anuradha College of Pharmacy, Chikhali, Buldhana, MS, India¹

Principle, PRMSS Anuradha College of Pharmacy, Chikhali, Buldhana, MS, India²

Corresponding Author: Komal Sanjay Kolhe

komalkolhe2853@gmail.com, bhagyashrichaudhari4402@gmail.com

ranbawalelochana2003@gmail.com, mayuriwagh1908@gmail.com, mmayuribore@gmail.com

Abstract: *This invention relates to improvements in Perfumes and methods of preparing the same. There is significant advancements in growing public demand for the development of new Fragrances C scents solid perfume is generally constituted of all herbal ingredients, except in some cases, it has usually three main ingredients : Beeswax, Carrier oil and Essential oils. It is applied topically on pulse points with the help of Finger or a cotton swab.*

Although solid perfumes have been available in the market for some time, they remain relatively unknown due to concepts of their rigidity. Evaluation test were performed individually on the basis of organoleptic, physical and chemical nature of Ingredients. But now those people so that, who known about solid perfumes, they have been very much used. My concept is to satisfy customer C enhance their experience C also be aware about solid Perfume.

Keywords: Frangrances, Herbal Perfume, Essential Oil, Solid Perfume, Long-lasting Elegant Perfume.

I. INTRODUCTION

PERFUMES

The term “Perfume” originates from the Latin word ‘perfume,’ meaning “through smoke” Over 4000 years ago in “Mesopotamia”, where it was used in The form of incense. Perfumes is a mixture of fragrant essential oils or aroma compounds, Fixatives, solvents used to give the human body, animals, food objectives C Living spaces an agreeable scent It is usually in liquid form and used to give a pleasant scent to a person’s body. Medicinal plants have seen their universal role in many of the medicine systems Respective of the methodologies and concepts. Production of volatile oils or Essential oils from plant sources has led to the expansion of aroma industries And perfumery to new horizons. Addition of Fragrance make products more Attractive or to mask the taste or smell of unpleasant ones. There are various Plants that contain essential oils C can be used as natural perfumes are Jasmine, Rose, lemon grass, Tea tree, Lavender, Olive, Geranium, jojoba, etc.

NEED OF PERFUME

- For maintaining the hygiene and personal care.
- Good smell represents positive vibes C also boost confidence.
- Many essential oils in perfume are used to treatment through aromatherapy
- Pleasant fragrance also helps in mood, enhancement.
- It just not only helps in improving health but also remove stress and creats Positive lifestyle[attitude].

Classification of perfumes

A) On the basis of concentration of fragrance

Fragrances are classified based on this concentration levels C Scent families. The concentration level determines the Intensity and longevity of the scent on the skin. Higher the Concentration of Fragrance, longer It will last on the skin.

- 1) Perfume extract, or simply perfume (Extract): 15-40% aromatic Compounds.
- 2) Esprit de Perfume (EsdP): 15-30% aromatic compounds, a seldom Used Strength concentration in between EsdP and perfume.
- 3) Eau de Perfume (EdP), Perfume de Toilette (PdT): 10-20% (typical 15%) Aromatic compounds.
- 4) Eau de toilette (EdT): 5-15% (typical 10%) aromatic compounds.
- 5) Eau de Cologne (EdC): Chypre citrus type perfumes with 3-8% (typical 5%) aromatic compounds.
- 6) Perfume mist : 3-8% aromatic compounds (typical non-alcohol Solvent).

B) Perfumes can further be classified into following Classes:

- 1) Bright floral: Fragrance from one or several flowers.
E.g. Estee lauder’s Beautiful
- 2) Green: Fragrance from cut grass or leaf.
E.g. Calvin Klein’s Eternity
- 3) Aquatic: A clean smell reminiscent of ocean.
E.g. Davidoff Cool Water
- 4) Citrus: Has freshening effect.
E.g. Faberge Brut
- 5) Fruity: Aromas of fruits other than citrus.
E.g. Ginestet Botrytis
- 6) Gourmand: Scent with edible or desert like qualities.
e.g. Thierry Mugler’s Ange

Aromatic sources

Fragrance used in perfumes are found from following sources....

- 1) Plant source –
Bark , flower, resins, roots, fruit, leaves, woods.
- 2) Animal sources –
Ambergrist, castorium, honeycomb.
- 3) Synthetic sources –
Calone , linaloon

Main types of perfumes

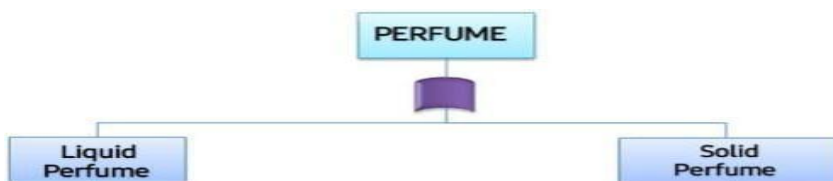


Figure :- 1

Liquid perfumes

It is the mixture of fragrant essential oils and aroma compounds, fixatives And solvents usually in liquid form used to give human Body ,animal ,food , objects, and living spaces an agreeable scent. Liquid perfumes is defined as a mixture of alcohol, water and molecules that Evaporate at room temperature.

Ex. room freshener, Dio, spray perfume

Use of liquid perfumes

used in cosmetics and toiletry items such as bath oil, soap ,deodorants , Etc .They can also used in paint and cleaning materials to mask Undesirable orders.

Solid perfume

Solid perfumes are perfumes in a solid base rather than a liquid one like Water or alcohol. The solid base substances are typically where that moles Easily to mix with perfumes and solidifier at room temperature. Solid perfumes also known as cream perfumes. Example of basis use includes these wax Vaseline and petroleum jelly.

SOLID PERFUME

Solid perfume was formulated using a combination of natural waxes, carrier Oils and essential oils.” By melting the wax C oil then adding essential oil And pouring the mixture into a container to solidify.” Various evaluation Tests were performed individually on ingredients to identify them C Assess their quality. Organoleptic test , specific gravity test. Fragrance Resistance test, physical stability test , spreadiability test ,sensitivity Test, PH test were all used for the evaluation of solid perfume formulation. sensitivity Test, PH test were all used for the evaluation of solid perfume formulation.

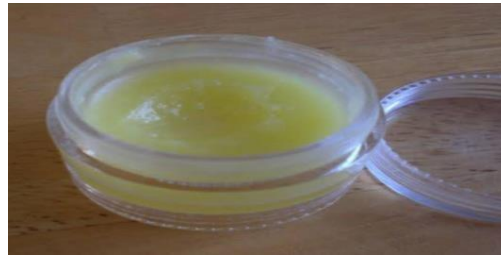


Figure : 2

The physical characteristics of the solid perfume were evaluated, including Texture, appearance, and melting point. The fragrance intensity and Longevity of the solid perfume were also analysed using olfactory testing. Each perfume is like a special story told through fragrance, expressing Different emotions and memories. It’s a mix of science and art, combining Different smells to craft something beautiful and personal.

When someone Wears solid perfume. It brings a smile to their face and makes them feel Confident and happy. Basically, the bees wax perfume that might be Having some spicy, sweet C floral Smell/Scent. Overall, the formulation and evaluation of the solid perfume containing Essential oil demonstrated its potential as a natural and sustainable Alternative to traditional perfumes. Further studies could explore the use Of different Essential oils and their potential benefits in solid perfumes, as Well as the impact of formulation on the sensory and Functional Properties of the product. Solid wax perfume is a unique and convenient way to enjoy your favourite Scents. Unlike traditional liquid Perfumes, solid wax perfume is a Compact, waxy substance that holds fragrance. It’s often shaped into Small, Portable containers or even decorative shapes. Typically crafted with beeswax and scented with essential oils or Fragrance Oils such as almond, jojoba, grapeseed, or olive oil, they offer Moisturizing Properties alongside therapeutic benefits, like pain relief And Antimicrobial effects. Despite the lack of widespread awareness, There’s a Growing interest in solid perfumes, especially those derived From natural Oils and extracts, offering customers a vegan option with added Therapeutic Value.

Solid wax Perfumes are popular for their portability, long-lasting scent, and The absence of alcohol or chemicals found In liquid perfumes, making Them a natural and subtle way to carry your favourite fragrance with you Wherever you go. They offer prolonged scent retention on The skin compared to conventional Liquid perfumes due to the combination of waxes, oils, and Other Ingredients used in their formulation. One of the notable benefits of solid Perfume is That it is alcohol-free. Research suggests that oil- based perfumes can retain their scent for 6-15 hr.

There are several method to isolate essential oils from the plants and flowers Like steam distillation, solvent extraction methods etc. Essential oil can Irritate and damage the skin colour so it is not used in form of single Compound It must be formulated with carrier oil as excipient. The Fragrance intensity of essential oil was found to be preserved in the

solid Perfume. The essential oil also exhibited potential antimicrobial C Antioxidant properties, which could provide additional benefits to the User. The materials utilized in the formulation of herbal solid perfumes were Entirely consist of natural origin.

Solid perfume requires Three primary Ingredients:

- Beeswax
- Carrier oils
- Essential oils.

Commonly used Carrier oils are coconut oil and almond oil. Essential oils used in solid perfume formulation are rose essential oil, vanilla Essential oil, lavender essential oil, citrus essential oil, jojoba essential oil, Jasmine essential oil, sandalwood essential oil.

Scent Categories:-

- 1) Floral solid perfumes- It is mast common family Used in many Well-known many perfumes, it usually takes on a Feminine Characteristic in fragrance .
Ex: Jasmine, Lavender.
- 2) Fresh solid perfume – It comprises green, water and citrus scents Anatomised by bright ,refreshing qualities.
Ex: Lemongrass, Tea tree
- 3) Oriental solid perfume – Are worm and exotic made spices such As pepper, cloves and vanilla.
Ex: Cinnamon, Ginger and vanilla.
- 4) Woody solid perfume – Are usually warm C opulent mixing Incense-like Fragrances like sandalwood.
Ex: Sandalwood, cedarwood.



Figure :- 3

Types of solid wax perfumes –

There are a few different types of solid perfume, each with their own Benefits:

1. Traditional Solid Perfume: This type of solid perfume is made with a Base of beeswax or other natural waxes and then scented with essential Oils or fragrance oils. It’s the most classic form of solid perfume and Usually has a strong, long- lasting scent..
2. Alcohol-Based Solid Perfume: This type of solid perfume is made with a Base of alcohol, which evaporates quickly on your skin. It’s perfect for Those who don’t like the feeling of traditional wax-based perfumes and it Also tends to have a lighter scent. You can often find this in a roller ball-Type application .

3. Oil-Based Solid Perfume: This type of solid perfume is made with an oil Base, which means it won't evaporate as quickly as an alcohol-based Perfume. It's perfect for those who want a long-lasting scent that won't Fade away quickly.

FRAGRANCE WHEEL

A Fragrance wheel also known as a aroma wheel, A Fragrance circle, a Perfume wheel of a scent wheel is circular diagram used to categorize Visualize different perfume scents. Perfume expert Michael Edwards Created the modern fragrance wheel in 1992.



Figure :- 4

NOTES IN PERFUME

These Notes Are Created Carefully With Knowledge of the evaporation Process of the Perfume.

The three notes are:

- a. Top notes
- b. Middle notes
- c. Base note

Each of these levels, however, has its own primary purpose.

a. Top notes

They are generally the lightest of all Notes and recognized Immediately after application. Top notes consist of small, light molecules With high Volatility that evaporate quickly. Common fragrances of top Notes include citrus (lemon, orange zest), light fruits (grape, berries), and Herbs (clary sage, lavender).

b. Middle Notes :-

The middle notes or the heart notes, makes an Appearance once the top notes evaporate. The middle note compounds From "heart" or main Body of a perfume and act to mask the often Unpleasant initial impression of base notes, which Become more pleasant With time. Common fragrances of middle notes includes Rose, Lemon, nutmeg, Jasmine etc

c. Base notes:-

Base notes or bottom or dry notes appear while Middle notes Are fading. The base and middle notes Together are the main theme of a Perfume. Base Notes bring depth and solidity to a perfume. Common Fragrances of base notes include sandalwood, vanilla, Amber and musk



Diagram:- 1

Importance of solid perfumes

Why we prefer to use solid perfume rather than liquid perfume-

Solid perfumes can last longer than mists but may not always be as long Lasting as regular alcohol based perfumes. Since they are made with oils And waxes , they release fragrance more slowly , giving a subtle and Steady Saint overtime. This makes them great for people who prefer a Softer, less overpowering fragrance.Solid perfume can be important for a number of reasons, including :-

- 1) Scent: Solid perfume can have a more subtle scent release than liquid Perfume, making it ideal for sensitive environments or close quarters. The Fragrance is released more slowly, giving a steady scent over time.
- 2) Durability: Solid perfume can last longer on the skin than liquid perfume, So you don't need to reapply as often.
- 3) Portability: Solid perfume is small and portable, making it ideal for travel Or touch-ups on the go.
- 4) Environmental impact: Solid perfumes are often recyclable and Refillable.
- 5) Skin sensitivity: Solid perfumes are alcohol-free and made with natural Ingredients, them better for sensitive skin.
- 6) Cost: Solid perfume can be less expensive than buying multiple bottles of Liquid perfume over time. 6)Moisturizing: The natural oils in solid perfume can help moisturize the Skin.
- 7) Leakage Free: Solid perfumes offer the advantage of being leakage-free. Whether you're Traveling with them Or storing them in a cupboard at home, you won't Have to worry about spills or messes.
- 8) Long lasting : Solid perfumes are known for their longevity. They adhere well to the skin, Ensuring that the Fragrance lasts for an extended period. Plus, they're Easy to reapply whenever needed, making Them a convenient choice for All-day wear.
- 9) Small size: Solid perfumes are packaged in small, compact, and unbreakable containers, Making them Incredibly convenient to carry. They easily fit into a purse or Pocket, offering portability Without the worry of breakage that comes With glass bottles of liquid perfumes. Opting for a Solid perfume ensures Hassle-free transportation and usage wherever you go.
- 10) Less likely to cause skin reaction: Solid perfumes are less likely to cause skin reactions due to their composition Of natural oils. With fewer synthetic ingredients or alcohol, they are a Gentler option for those with sensitive Skin, reducing the risk of irritation Or allergic reactions.

Uses of solid perfume –

Solid perfume is used for fragrance and can be used in a variety of ways, Including:

- **Fragrance:** Solid perfume is used to add fragrance to the skin. It's usually Applied to pulse points like the neck and wrists.
- **Aromatherapy:** Solid perfume can be used for aromatherapy to help Relieve stress or increase energy levels.
- **Travel:** Solid perfume is portable and easy to transport, making it ideal For travel. It's also travel-friendly because it doesn't have to meet the 100ml rule at airports and there's no risk of glass breaking or leaking.
- **Touch-ups:** Solid perfume is easy to apply and can be used for touch-ups On the go. **Self-love:** Solid perfume can be worn as a reminder of self-love.

Skin

Skin is the largest organ by weight which approximate covers 2 square metre The external surface of body. Skin contains two parts namely epidermis And dermis.

Skin layers

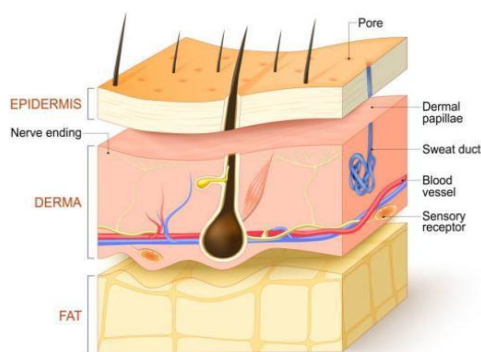


Figure :- 5

Water soluble compounds are not absorbed through the skin Where are lipid soluble once do. Transdermal medication delivery given Arise from skin absorption. The skin's Absorption of water-soluble substances is minimal, lipid-Soluble Materials can penetrate its layers. Such Substances include certain drugs, Fat-soluble vitamins, And gases like carbon dioxide and oxygen. For Example, Lipid-soluble topical steroids can easily reach the Dermis's Papillary region. This ability to absorb Substances has led to the Development of transdermal Drug administration's methods.

How to use-

To apply the solid perfume to wrists and other pulse spots, brush a clean Finger or Q-tip across it's top. Repeat as Necessary. Then the solid perfumes Are typically applied by rubbing a small amount of it onto the body's pulse Points, such as the wrists or neck. They Are applied directly to the skin using fingers or a cotton swab.

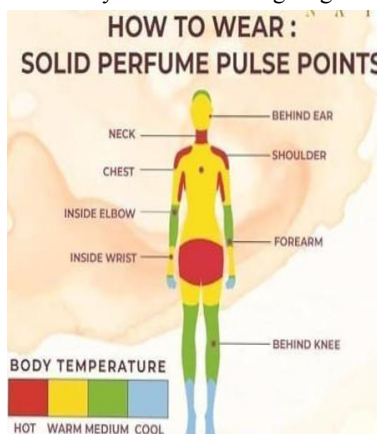


Diagram :- 5

Advantages of Solid perfume Over Liquid perfume-

Solid perfumes offer several advantages over traditional liquid perfumes.

Solid perfume	Liquid perfume
1 Solid perfumes is skin friendly, Does not harm to skin	Liquid perfume contain alcohol which act as an irritant and Haines causes dryness of the skin.
2 It consists of waxes add a base so it acts as long lasting.	It consist of alcohol as base to eat gate evaporate after sometime of spraying
3 Solid perfume does not leak, so it can be easily carried from one place to another place.	Liquid perfume has chance of leakage while carry from one place to another.
4 It is lightweight they are non-toxic to health	It is heavy or bulky sometimes are produces toxic effect over skin

- 1) They are often more concentrated, which Means that a smaller amount can Be used to achieve the desired scent intensity.
- 2) Solid perfumes are also more Portable, as they can be easily carried in a Purse or pocket without the risk of leaking or spilling.
- 3) Solid perfumes are less likely to irritate sensitive skin than traditional Liquid perfumes, as they do not contain alcohol or other Potentially Irritating ingredients.

SELECTION OF CHEMICAL INGREDIENTS USE IN THE FORMULATION

1) Beeswax

Beeswax place dual role in solid perfume making. It solidifies Career oil and at protective barrier to retain the Essential oil based perfume For a longer duration of time. Where as the beeswax is the chemical ingredient which use as base of the product.



Figure :- 6

Scientific name- Cera albas

Family- Apidae

Order - Hymenoptera

Genus – Apis

Extraction method – Melting in hot water

Uses- Cream perfume, lip balm

2) Cocoa butter:-

Cocoa butter can be obtained from by-product of chocolate powder processing from the result of mechanical pressing using hydraulic press. As a source of vitamin E, cocoa butter in cosmetic has some advantages which are to soften and moisturize the skin. The formulation variation of solid perfume was done with cocoa butter concentration 10%, 20%, 30%, 40% and 50% (w/w) and addition of oil as fragrance fixative agent.



Figure:- 7

SELECTION OF HERBS USED IN THE FORMULATION :

The materials which utilised in this project were entirely of natural origin. Herbal solid perfume requires 2 main ingredients that are carrier oils And essential oils.

Carrier oil and essential oils are the key ingredients which are extracted from herbs. Using various extraction methods the product ingredients are should be extracted. Carrier oils are extracted from almond and coconut as in the oil form , Where as essential oils are extracted from rose, vanilla, lavender, sandalwood, jasmine.

In the preparation, we can also use powder extract of sandalwood.

Carrier oils

1. Almond oil

Derived from the seeds of Prunus Dulcie, Rosacea, almond oil is golden yellow and odourless. It contains 40-55% fixed oils, 20% proteins, mucilage, and 2.5-4% amygdalin's. It is known for its nourishing and moisturizing properties and acts as a vehicle for the formulation. Other carrier oils like grape seed oil, jojoba oil, avocado oil, and coconut oil can also be used.



Figure:- 8

2. Coconut oil

Coconut oil is a white solid fat below around 25 degree Celsius and a clear thin liquid in war climate. It is used as food oil and in industrial application for cosmetics and detergents. Due to its high saturated fat content, health authorities recommend limiting its consumption as food.

Scientific name- Coco's nucifera

Family – Aceraceae



Figure: 9

Kingdom – Plantae
Genus – Cocos
Extraction- Distillation
Uses- Excellent carrier oil, perfume diluent

Essential oils

1. Lavender oil

It is colourless or yellow liquid. The major constituents of the oil where Linalool, linalyl Acetate, geranium, Beta-Caryophyllene, lavandulyl Acetate. Their essence is extracted by the steam distillation of the flower.



Figure :- 10

Scientific name- *Lavandula angustifolia*

Family – Lamiaceae

Order – Lamiales

Kingdom- Plantae

Genus – *Lavandula*

Extraction method- Steam distillation

Uses- antibacterial, antifungal, antiseptic, anti-inflammatory, pain relief.

2. Rose oil

Obtained From Flower petals of *Rosa damascene* Mill. *R. Canina*, *R. Centifolia*, *R. galica*, *R. Moschata* C R. *Rugosa*, belonging to Family Rosaceae is rich in Terpenes as citronellol, geraniol, nerol, Fomesol C Rose oxide.



Figure :- 11

Family – Rosaceae

Order – Rosales

Kingdom- Plantae

Genus – *Rosa*

Extraction method – Steam distillation, solvent extraction

Use: To treat Inflammation, diabetes, depression, stress, seizures C aging.

3. Sandalwood oil

It is widely used in fragrance, cosmetics and aromatherapy. The adoption Of a novel green approach for extracting Essential oil with least amount of Energy, solvent and time must be explored by microwave hydro Distillation process.



Figure :- 12

Scientific name- *santalum album* L.

Family- Santalaceae

Order- Santalales

Kingdom- Plantae

Genus- Santalum

USE -It has antifungal and antimicrobial properties.

4. Vanilla oil

Vanilla oi can be used as natural fragrance. The components of vanilla are Vanilla, vanilla acid, vanilla alcohol, Coumadin and anisaldehyde.



Figure :- 13

Scientific name – *Vanilla planifolia*

Family- Orchidaceous

Order- Asparaguses

Kingdom- Plantae

Genus- Vanilla

Use- antioxidant, act as flavouring agent.

5. Jasmine oil

Jasmine oil is a valuable investment due tous potency of incredible Fragrance power. It contains linalool, benzaldehyde, benzyl alcohol. Benzyl acetate, citronellol C nerolidol. Jasmine aldehyde is responsible for jasmine's characteristic smell.

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Figure :- 14

Scientific name – *Jasminum officina*

Family- Oleaceae

Order -Lamiales

Kingdom -Plantae

Genus-*Jasminum*

Use – Antioxidant, manage diabetes, Sedatives, Antidepressant, Antiseptic, reduces stress.

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