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FORMULATION OF ESSENTIAL OIL BASED ON SOLID PERFUME

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1.ABSTRACT

This study explores the formulation of a natural solid perfume utilizing essential oils of Jasmine (Jasminum grandiflorum), Lemon (Citrus limon), and Cedarwood Oil. The combination of these oils is aimed at creating a balanced fragrance profile with floral, citrus, and woody notes. The solid perfume base is composed of beeswax and Almond oil, which provide a stable structure for the fragrance while enhancing skin moisture. Jasmine oil contributes a rich, sweet floral scent, Lemon oil offers a refreshing citrus burst, and Cedarwood oil imparts a warm, woody depth. The final product is a sustainable, portable, and long-lasting fragrance solution suitable for personal use. The formulation demonstrates an effective method for blending essential oils in a solid, easily-applied form that captures. the aromatic qualities of the ingredients while being eco-friendly and skin-safe.

KEYWORDS : *Solid Perfume, Jasmine Oil, Lemongrass Oil, Beeswax, Evaluation, etc.*

2.INTRODUCTION

Solid perfume is becoming increasingly popular for its convenience, sustainability, and unique application method. Unlike liquid perfumes, which typically rely on alcohol as a base, solid perfumes are made with a combination of oils, waxes (like beeswax or soy), and essential fragrance oils. This blend allows the scent to cling to the skin more subtly and longer, as the wax and oils slowly release the fragrance over time. This means solid perfumes tend to have a more intimate, personal scent experience compared to the often stronger, more volatile sprays of liquid perfumes. Another major benefit is their portability. Solid perfumes are easy to carry in small tins or sticks, making them ideal for travel or on-the-go use. They don't leak, spill, or break easily like glass bottles, and they don't require a sprayer, which adds to their lowmaintenance nature.

The application process is also more controlled. Users can swipe the solid perfume directly onto pulse points such as the wrists, neck, or behind the ears without the risk of over spraying or over-applying. The fragrance is activated by body heat and is usually more subtle and long-lasting, as it doesn't evaporate quickly like alcohol-based liquids. This makes it perfect for those who prefer a less overpowering scent or want a fragrance that evolves throughout the day.

From an eco-conscious perspective, solid perfumes are a more sustainable choice, as they often come in minimalist or recyclable packaging. The ingredients in these perfumes tend to be more natural as well, with many brands opting for cruelty-free, vegan, and environmentally friendly formulations. In this study, a solid perfume was formulated using a combination of natural waxes, oils, and essential oils. The solid perfume was prepared by melting the wax and oil, adding the essential oil, and pouring the mixture into a container to solidify. For those who want to delve deeper into fragrance, solid perfumes also allow for more customization. Since they come in smaller quantities, users can experiment with layering different scents, creating a unique fragrance that's perfectly suited to their preferences. Furthermore, they tend to be priced more affordably than high-end liquid perfumes, making them an accessible luxury for many. Overall, the ultimate appeal of solid perfumes lies in their combination of practicality, sustainability, and subtle yet enduring fragrance, making them a smart and stylish choice for fragrance lovers.

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1.2.Fragrance Wheel



1.3. Why Perfume Are Required

-It promotes cleanliness and personal care.
-Smelling good conveys the idea of personal care While also representing good vibes.
-Wearing specific scents while performing various tasks may aid in recalling specific events and activities.
-Smelling good boosts confidence.
-Overall, it not only improves health but also relieves stress and promotes a happy lifestyle

3. STATEMENT OF THE PROBLEM

Traditional liquid perfumes often contain alcohol and synthetic chemicals that may cause skin irritation, evaporate quickly, and are not environmentally sustainable. Furthermore, they can be inconvenient to carry and apply, especially while traveling. There is a growing demand for natural, portable, and skin-friendly alternatives that offer long-lasting fragrance without the downsides of conventional perfumes.

This study addresses the problem by exploring the formulation of a solid perfume using natural essential oils and eco-friendly ingredients to create a safer, more sustainable, and travel-friendly alternative to liquid perfumes.

3.1 HYPOTHESIS

A solid perfume formulated with natural essential oils (Jasmine, Lemon, and Cedarwood), beeswax, and almond oil can provide a stable, skin-friendly, long-lasting, and pleasant fragrance that is suitable for personal use and environmentally sustainable, thereby serving as an effective alternative to traditional alcohol-based liquid perfumes.

4. AIM : Formulation of Essential Oil Based on Solid Perfume

5.OBJECTIVES

1.Portability – Easy to carry and apply anywhere.
2.Convenience – Mess-free, no need for sprays.
3.Long-lasting – Subtle, longer-lasting scent.
4. Discreetness – Ideal for personal, intimate fragrance application
5.Eco-friendly – Often uses minimal or sustainable packaging.

5.HISTORY

Solid perfume dates back to ancient Egypt, where it was made from natural ingredients like resin and myrrh, often for religious or personal use. The Romans and Greeks used balms and unguents, blending oils with herbs for fragrance. In the Middle Ages, solid perfumes were often carried in pomanders—scented spheres filled with spices and herbs. During the Renaissance and Victorian eras, solid perfumes were popular among the wealthy, often presented in decorative containers. In the 20th century, liquid perfumes overtook solid forms, but solid perfumes have since made a comeback due to their portability and natural ingredients, becoming trendy and eco-friendly options today.

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5.1. The Evolution of Perfume

The first known perfumer was a woman named Tapputi from Mesopotamia. Over time, the knowledge of perfume-making spread from one civilization to another, eventually reaching Europe. Europeans further developed the process and introduced the concept of "modern scents," which involved essential oils in an alcohol solution, first bottled in the late 1300s and called "Hungary water" after learning the method from the Hungarians. Today, modern technology has refined the process even more, with perfume companies employing scientists and chemists to create sophisticated products.[6]

6.THE IMPORTANCE OF PERFUME

1.Self-expression – Reflects personality and style.
2.Confidence – Boosts self-esteem and presence.
3.Memory – Evokes emotions and memories.
4.Cultural value – Tied to traditions and status.
5.Impression – Leaves a lasting impact on others. 6.Mood enhancement – Influences emotions and well-being.
7.Aesthetic appeal – Adds luxury and beauty.

7.BENEFITS OF SOLID PERFUME

1.Travelling
2.Absent alcohol
3.Compact and Practical
4.No Leaking
5.Being considerate of others



8.RESEARCH AND CONCEPT DEVELOPMENT

- Do a literature survey, and read articles related to solid perfumes, the ir me its, and their demerits.
- Determine the desired characteristics of the solid perfumes.
- Introduce the purpose and scope of your project

8.1 Formulation design

- Select the base ingredients, including essential oil, and beeswax.
- Consider the desired properties, such as its chemical constituents.
- Determine the color range and develop pigment blends.

8.2 Production

- Identify local suppliers for the ingredients and packaging materials.
- Purchase ingredients and packaging materials in small quantities.
- Develop the formulation of the solid perfume using selected ingredients
- Develop a formulation by combining the selected ingredients Laboratory testing:
- Create small-scale batches of solid perfumes formulations based on the initial design.
- Perform compatibility tests and stability studies on the ingredients.
- Evaluate the texture, color, scent, and overall performance of each formulation.

8.3 Optimization and adjustments

- Analyze the results of the initial testing and make necessary adjustments.
- Modify the formulation to improve properties like spread ability, and adherence.
- Conduct additional testing, such as microbial and safety assessments.

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8.4 Packaging
Design simple and cost-effective packaging options for presentation purposes. Create labels or mock-ups that showcase your branding concept.
Highlight the key features and benefits of your solid perfume formulation in your report.

8.5 Quality Control
Implement quality control measures during the formulation process to ensure consistency.
Document the quality control procedures you followed and explain their importance in your report.

8.6 Report Writing
Document the entire process, including research, formulation development, testing, adjustments, and results.
Include relevant scientific principles, theories, and references to support your findings.
Present your analysis of the formulation's performance and highlight any unique featuresor innovations.

9. INSTRUMENT

1.Porcelain dish.
2.Stirrer
3.Tong.
4.Beaker
5.Burner
6.Tripod stand
7.Water bath
8.Container to fill finish product



Fig : 1 Instrumentation

10. INGREDIENT (MATERIAL)

10.1 Bees wax
When secreted by the bee, the pure beeswax is almost white; only after contact with honey and pollen it assumes a variably intense yellowish color and turns brown after about four years, because it contains the cocoon. In recent years, beeswax has been shown to have antimicrobial properties when combined with other natural ingredients.



Fig : 2 Bees wax

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10.2 Lemon Essential Oil

Lemon oil as a main or base essential oil for our solid perfume Lemon oil is obtained from Cymbopogon flexuosus Stapf.(fam-Poaceae) The oil is used in perfumery, soaps, and cosmetics and as a mosquito repellent.

A solvent extraction method and a low-temperature distillation method are mainly used for extraction .

Chemical Constituents Lemon oil is the principal source of citral (68—85%) from which ionone is derived.



Fig : 3 Lemon essential oil

10.3 Jasmine Oil

Jasmine oil is a highly aromatic essential oil extracted from the flowers of the Jasminum species, primarily Jasminum grandiflorum (Spanish jasmine) and Jasminum officinale (common jasmine). It is well known for its sweet, exotic floral fragrance and has a long history of use in perfumery, aromatherapy, and skin care. Below is detailed information on various aspects of jasmine oil

Mainly Jasminum grandiflorum and Jasminum officinale. Known for its rich, sweet, floral and exotic scent, jasmine oil is prized in aromatherapy, perfumery and skincare for its numerous therapeutic, emotional and beauty benefits.



Fig : 4 Jasmine Oil

10.4 Cedarwood Essential Oil

Cedarwood oil is an essential oil extracted from the wood, roots, or leaves of the cedar or juniper tree. It has been used for centuries for its aroma, medicinal and therapeutic properties.

Cedarwood is a very important ingredient in perfumes. Its smell is woody, warm, and light smoky, which gives the perfume a dark and stable aroma. Cedarwood is used in a variety of ways, especially for men, in perfumes with a unique and complex smell.

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Fig : 5 Cedarwood essential oil

11.METHOD OF PREPARATION

- 10 grams of beeswax and 1 ml of almond oil were taken in beaker of 100 ML.
  Melt the wax with sweet almond oil heat the mixture on a water bath here we used a water bath. The bath temperature require is below $100°C$.

- Once this Mixture has liquefied, remove it from heat
  15 drops of Jasmine essential oil, 10 drops of Lemongrass essential oil and 10 drops of Cedarwood essential oil were mixed simultaneously in another beaker of 50 ml.

-Apply the perfume by robbing a finger on the product to liquefy it, then rub your finger on the area you want to be Scented.

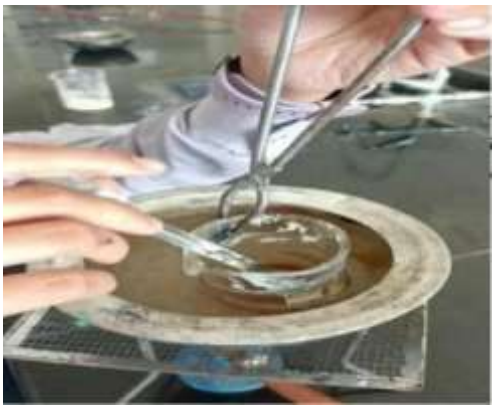


Fig : 6 Heating of beeswax



Fig : 7 Colour and texture Of solid Perfume

11. EVALUATION TESTS

11.1 Determination of Homogeneity

The formulations were tested for homogeneity by touch and visual appearance, means that the ingredients of a semisolid compound need to be evenly distributed throughout the product.

11.2 Organoleptic test

The organoleptic test was a method of testing that made use of the five human senses. Color, aroma, appearance, moisture, comfort, and homogeneity are all factors to consider, evaluation means the study of drugs using the organs of the senses. It refers to the methods of analysis like color, odor, taste, size, shape, and special features. suchas touch, texture, etc.

11.3 Determination of Spread ability

Spread ability may be expressed by area extent to which the topical application spreads when applied to the parts of the skin that is affected. A sample of known weight was applied to a known area and the spread ability factor was determined.

11.4 Determination of Solubility

The solubility of the formulation was checked in different mediums. measures the solubility of solid drug compounds in liquid immersions

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11.5 Determination of Absorption
The amount of formulation absorbed in a given area was observed. kin absorption is a route by which substances can enter the body through the skin Determination of the Type of Smear

It was determined by applying the solid perfume on the skin surface of a human volunteer. After applying solid perfume, the type of smear or film formed on the skin was checked.

11.6 Determination of Emolliency
Slipperiness, emollience, and amount of residue left after applying fixed amounts of cream were checked.

11.7 Determination of Physical Appearance
The physical appearance of solid perfume was inspected visually against a dark background. • After feel The nature of the skin texture on the applied area was assessed after the application of the formulation.

11.8 Ease of Removal
The ease of removal of the cream applied was determined by washing the applied part with tap water.

11.9 Irritancy test
An area was marked on one dorsal part of the hand. The prepared solid perfume was applied and the time was noted down. It was continuously monitored for any kind of irritancy or allergic reactions at regular time intervals for 24 hours.

11.10PH evaluation
The pH guideline for topical preparations in contact with the skin was between 4 and 8.The pH value was predicted to be neither excessively acidic nor too alkaline, since both might cause discomfort and flaky skin. The final solid perfume was tested using universal pH paper and had a pH of 6. This pH level was shown to be safe for topical preparation for human skin application.

11.11 Stability testing
Solid Perfume Product Stability Test
The stability test was designed to evaluate product attributes by examining the product's physical durability under various conditions. For four weeks, solid perfume was tested at room temperature by noting changes in texture, color, and scent.



Fig : 8 How to apply

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12.RESULT AND DISCUSSION

PROPERTIES	OBSERVATION	INFERENCE
Colour	Whitish	White
Odour	Jasmine scent	Refreshing and Jasmine smell
Appearance	Uniform	Formulation has uniform
Roughness	Absent	Formulation is smooth
Texture	Smooth and uniform	Formulation is uniform and smooth in texture

12.1 ORGANOLEPTIC ASSESSMENT

The organoleptic evaluation of the prepared formulation revealed the following details about its color, odor, appearance, texture, etc. The formulation was found to be pleasant, smooth, and acceptable.

13.CONCLUSION

There have been significant advancements in the development of new scents and odours. Still, these advancements fall suddenly when it comes to modifying the composition of scents.

Solid spices have been on the request for a long but are still fairly unknown owing to their severity. Ambrosial composites in cosmetics in solid form aren't new, but solid spices lag behind them in terms of fashion ability.

Solid incense products showed unity and physical stability during 2 months of observation at room temperature.
This solid incense's optimal composition was supposed to produce a new form distinct from liquid traditional spices. Due to the possibility of significant toxin and antipathetic responses, essential canvases are generally utilised in dilute form. Each uprooted essential oil painting has a unique medicinal benefit, and the maturity of them contain scents.
They're also employed in aromatherapies due to the sweet quality of their unpredictable composites. Because of its mobility and storehouse convenience, solid incense retains its fashion ability.

It's also suitable for individualities who aren't at ease with the request's veritably perfumed scents. The incense's smell may be modified to one's preference, and so the intensity of the aroma may vary across the population. Solid incense is one of those less delved areas about which little definitive information is available.

13.1 SUMMARY

Overall, the study highlights the potential of solid perfumes containing essential oils as a natural and sustainable alternative to traditional perfumes, and suggests avenues for further explorationin this field.

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