

HERBAL BLUSH FORMULATION: A SAFE AND SKIN - FRIENDLY APPROACH**Km. Shiva¹, Mahima¹, Dr. Indira Raheja*², Aditya Sharma³**

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ABSTRACT

This study focuses on preparing a natural blush using safe, gentle, and easily available ingredients. The main aim is to make a blush that gives good colour, blends smoothly, stays for long hours, and does not harm the skin. The ingredients used in this formulation are beetroot powder, Rose petal powder, Hibiscus powder, Cocoa powder, rice powder, kaolin clay, jojoba oil, almond oil, coconut oil, vitamin E, zinc oxide, and magnesium stearate. Each ingredient plays an important role in improving the quality of the final product. Beetroot powder is used as the natural colour source. It gives a soft pink shade that looks fresh on the cheeks. Rice powder helps absorb extra oil and provides a smooth matte finish. Kaolin clay adds a soft texture, helps the blush stick well, and controls oil without irritating the skin. Jojoba oil a natural oil similar to skin, makes blending easy and prevents dryness. Vitamin E works as an antioxidant and protect skin. Almond oil provides light nourishment Coconut oil (in very small amount) – suitable for dry skin Zinc oxide provides mild coverage and prevent the sun light. Magnesium stearate increases the staying power and gives a silky feel. Overall, this formulation aims to create a natural, affordable, and skin-friendly blush suitable for daily use, especially for people who prefer clean and chemical-free cosmetics. This study focuses on the formulation and evaluation of a natural, skin-friendly blush using plant-based and mineral ingredients. The objective was to develop a blush that provides a smooth texture, good color payoff, and long-lasting performance without causing skin irritation. The formulation includes beetroot powder as a natural pigment, rice powder and kaolin clay as base materials, and jojoba oil with vitamin E as binding and antioxidant agents. Zinc oxide and magnesium stearate were added to enhance coverage, texture, and stability. The prepared blush showed good spreadability, smooth application, and acceptable staying power. This formulation demonstrates that effective cosmetic products can be developed using safe, natural ingredients suitable for daily use.

KEYWORDS: Natural blush, Beetroot powder, Herbal cosmetics, Skin-friendly formulation, Kaolin clay.

INTRODUCTION

Blush cosmetics can enhance the complexion and give the face a youthful and healthy appearance. Natural blush color, derived from plant extracts, minerals, and other sustainable sources, offer a safer and environmentally friendly alternative to synthetic pigments. Red beet extract, a natural colouring ingredient, allows even the most sensitive skin types to use blush without irritating chemicals. Cosmetics are preparations or mixtures of ingredients used on the outside of the body for the

purpose of beautifying, enhancing attractiveness, and cleansing. Cosmetic products are widely used by the public, so cosmetic manufacturers compete with each other to find products with new innovations. With innovations in cosmetic products, names add aesthetic value for users.^[1] The incorrect use of cosmetic ingredients can damage the skin because the skin can absorb substances that adhere to its surface. One cosmetic product that is often used by women is blush. The use of blush ingredients in cosmetics is carefully

regulated because chemical substances can affect healthy skin if exposed continuously.^[2] Blush or cheek color is a cosmetic product used to color the cheeks and enhance the aesthetics of facial makeup with a variety of colors. Blush comes in various forms, including compact, powder, liquid, cream, and stick. Blush colors vary greatly, including red, orange, pink, and brown.^[3] Blush containing low levels of pigment is used as a color softener or.^[4] However, almost all products on the market use synthetic dyes. Synthetic dyes have clear advantages over natural dyes because they have stronger coloring power, are more uniform, more stable, more practical to use, and are usually cheaper. However, despite these advantages, synthetic dyes can have adverse effects on health. The use of synthetic dyes in cosmetics containing hazardous substances such as mercury, copper, harmful dyes such as Rhodamine B, metal yellow, and other hazardous chemicals can cause damage to certain tissues.^[2] One option to reduce the side effects of synthetic blush is to use beetroot. Beetroot contains betalain compounds that have high antioxidant levels. Betacyanin is a red or purple pigment that is a semi-polar flavonoid derivative because it binds nitrogenous pigment sugars and is a substitute for anthocyanins.^[4] Red beetroot extract has antioxidant activity with an IC50 value of 5-15%, with the higher the extract concentration, the greater its ability to block free radicals.

In recent years, many people have started choosing natural cosmetics because they are safer, gentler, and better for long-term skin health. A blush is a common makeup product used to add colour to the cheeks and give a fresh, healthy appearance. However, many commercial blushes contain artificial colours, talc, and chemicals that may cause irritation.^[16] To provide a better and safer option, this formulation uses natural and mineral-based ingredients.

Beetroot powder is chosen for its natural pink-red colour. It is plant-based and suitable for sensitive skin. Rice powder is a traditional beauty ingredient in India and helps control oil while giving a smooth finish. Kaolin clay adds softness and helps the product stay on the skin for longer.^[5]

Jogoba oil improves blending and prevents the powder from feeling dry or patchy. Vitamin E protects the skin and improves product freshness. Zinc oxide offers mild sun protection and smooth coverage. Magnesium stearate enhances texture and staying power.^[6,2]

Overall, this natural blush aims to give safe colour, comfortable application, and skin benefits for everyday use.

Ingredients and Their Usage

Various ingredients used in this formulation like beet root powder, olive oil, Jogoba oil, Cocoa powder, rose petal

1. Beetroot Powder



Figure No. 1: Beet Root Powder.

Usage

Beetroot powder is the main colouring ingredient in the blush. It gives a natural pink-red shade that looks fresh on all skin tones. It is completely plant-based and safe for sensitive skin. It also adds a healthy glow to the cheeks.

2. Rice Powder



Figure No. 2: Rice Powder.

Usage

Rice powder acts as a natural base. It absorbs extra oil from the skin and gives a smooth, matte finish. It helps the blush spread evenly and prevents patchiness. It is very gentle and suitable for oily and combination skin.

3. Kaolin Clay



Figure No. 3: Kaolin Clay Powder.

Usage

Kaolin clay helps the blush stay longer on the skin. It absorbs oil lightly without making the skin dry. It gives the blush a soft and silky texture and makes application smoother.

4. Jojoba Oil



Figure No. 4: Jojoba Oil.

Usage

Jojoba oil improves blendability and prevents the blush from feeling too dry or chalky. It is similar to the skin's natural oil, so it does not clog pores. It also adds a subtle dewy finish if used in small amounts.^[15]

5. Vitamin E



Figure No. 5: Jojoba Oil.

Usage

Vitamin E acts as an antioxidant. It protects the skin from dryness and also keeps the blush fresh by preventing oxidation. It improves skin softness and adds a mild moisturizing effect.

6. Zinc Oxide



Figure No. 6: Zinc Oxide.

Usage

Zinc oxide gives better coverage, improves the smoothness of the blush, and adds light natural sun protection.

It also helps calm sensitive skin and gives a soft, even finish.^[14]

7. Magnesium Stearate



Usage

Magnesium stearate increases the staying power of the blush. It makes the texture silky and easy to glide on the skin. It also helps the product blend better without creating harsh lines.

Advantages of This Natural Blush

1. Skin-Friendly Ingredients

All ingredients are natural or mineral-based, making the blush gentle on sensitive skin.

2. No Harsh Chemicals

It does not contain artificial colours, talc, parabens, or heavy fragrances, reducing the chance of irritation.

3. Natural Colour

Beetroot powder gives a soft, natural pink shade that looks fresh and suits most Indian skin tones.

4. Oil Control

Rice powder and kaolin clay help absorb extra oil, making it good for oily and combination skin.

5. Smooth Texture

Magnesium stearate and kaolin clay give a silky feel and help the product blend easily.

6. Added Skin Benefits

Jojoba oil moisturizes, vitamin E protects from dryness, and zinc oxide provides mild sun protection.

7. Long-Lasting

The combination of clay and magnesium stearate helps the blush stay longer on the skin.

8. Affordable & Easy to Make^[8]

All ingredients are easily available and low-cost compared to high-end chemical blushes.

Disadvantages of This Natural Blush

1. Colour May Fade Faster

Natural beetroot pigment may fade quicker compared to synthetic colours, especially in humid weather.

2. Not Waterproof

Since it is natural, it may not stay strong during sweating or long outdoor hours.

3. Limited Shades^[11]

Beetroot gives mostly pink/red tones, so making many different shades is difficult.

4. Shorter Shelf Life

Natural ingredients can oxidize or lose quality faster if not stored properly. Vitamin E helps, but it's still shorter than chemical blushes.

5. Oil Balance Needed^[7]

If too much jojoba oil is added, the blush can feel greasy. If too little, it may feel dusty.

6. May Need Reapplication

Compared to commercial brands with silicone ingredients, this natural blush may need reapplication during the day.^[11,12,13]

7. Texture Can Vary

Handmade products sometimes have slight variation in smoothness each batch.

Natural Blush Formulation

Procedure (10 G Blush Formulation)

Required Equipments

Clean and sanitize all equipment including bowls, sieve (80–100 mesh), spatula, and mortar–pestle before use.

Sieving: Individually Sieving all ingredients like beet root powder rice powder, kaolin clay, zinc oxide, and magnesium stearate in neat clean container & obtain fine powder.

Blending of Base Ingredients

accurately weigh of all ingredients and mix rice powder, kaolin clay, zinc oxide, and magnesium stearate in a clean bowl. Blend thoroughly for 2–3 minutes to achieve a uniform base.

Add Colour

gradually add beetroot powder to the base mixture with continuous mixing until a uniform and desired color is obtained.

Preparation of Oil Phase

In a separate small bowl, mix jojoba oil with vitamin E to form a uniform oil blend.

Wet Dispersion

drop wise Add the oil mixture into the powder, blend continuously mixing to ensure even distribution and to prevent lump formation.

Texture Refinement

Transfer the mixture to a mortar and gently grind for 1–2 minutes to obtain a smooth, fine, and evenly colored texture.

Final Sieving (if need)

Pass the blended mixture again through the sieve to achieve a fine, silky texture.

Packaging and Storage

Transfer the final product into a suitable container (loose powder jar) or press into a compact pan as required. Store in a clean, dry place at room temperature.

Table no. 1: Compositions of Natural Blush

Ingredient	Amount (g)	Function
Beetroot Powder	0.8 g	Natural color
Rice Powder	5.0 g	Base, oil control
Kaolin Clay	2.0 g	Texture, absorbent
Zinc Oxide	0.3 g	Coverage, protection
Magnesium Stearate	0.65 g	Smoothness, adhesion
Jojoba Oil	0.2 g	Binding agent
Vitamin E	0.05 g	Antioxidant
Total	10 g	—

Evaluation Parameters Result

The prepared blush was evaluated using the following parameters:

- **Color:** Soft pink shade obtained from beetroot powder
- **Texture:** Smooth and silky
- **Spread ability:** Easy to apply and blend
- **Skin irritation:** No irritation observed
- **Stability:** Stable under normal storage conditions
- **Appearance:** Uniform and fine powder.^[18]

Prepared product in laboratory





5. DISCUSSION

The present formulation demonstrates that natural ingredients can be effectively used to prepare a safe and functional cosmetic product. Beetroot powder provided a natural pigment; however, its stability was lower compared to synthetic dyes, which may lead to faster color fading. The use of rice powder and kaolin clay improved oil absorption and gave a smooth matte finish, making the formulation suitable for oily and combination skin types.^[9,10]

Jojoba oil and vitamin E enhanced the blendability and provided mild moisturizing and antioxidant properties. Zinc oxide contributed to better coverage and offered mild protection against sunlight. Magnesium stearate improved the texture and increased the staying power of the blush.

Compared to commercial products, the natural formulation is safer and free from harmful chemicals, but it has limitations such as shorter shelf life and lower water resistance. Overall, the formulation shows a good balance between safety, performance, and cost, making it suitable for small-scale production.

SUMMARY

This blush formulation is a natural, powder-based cosmetic designed to provide soft colour, smooth texture, and skin-friendly performance using simple, safe ingredients. The blend is built around rice powder, which works as a lightweight base and oil absorber, giving the product a matte yet breathable finish suited for Indian skin and humid climates. Kaolin clay enhances texture and improves adhesion on the skin, helping the blush stay in place for longer periods without patchiness. Beetroot powder functions as the primary natural pigment, offering a warm rosy shade, while zinc oxide adds mild opacity and boosts coverage. Magnesium stearate improves slip, blendability, and overall smoothness, making the blush easier to apply with brushes. Jojoba oil and vitamin E together form the oil phase that provides slight binding, improved spread, and antioxidant protection to enhance stability. The procedure includes sieving, blending, pigment incorporation, oil dispersion, milling, and final filling to ensure an even, professional-quality powder. The formulation is suitable for producing both loose and

pressed blush formats with minor adjustments. Overall, this formulation offers a clean, minimal-chemical cosmetic product using ingredients that are accessible, stable, and appropriate for small-batch manufacturing.

CONCLUSION

This 10 g natural blush formulation demonstrates that high-performance colour cosmetics can be created using simple, safe ingredients combined with a correct and disciplined manufacturing process. The formulation effectively balances colour, texture, skin feel, and stability by integrating natural powders with a controlled amount of oil-based binder. Rice powder and kaolin clay create a strong structural foundation, ensuring smooth application and good adhesion. Beetroot powder provides natural tint, though its stability depends on proper storage and antioxidant support from vitamin E. Zinc oxide and magnesium stearate add opacity and slip, enhancing bendability and improving the final finish on the skin. The procedure—especially sieving, controlled oil addition, and gentle milling—plays a critical role in achieving uniformity, preventing clumping, and producing a refined, professional texture. The formula is particularly well suited for loose powders, though slight oil adjustments can make it compatible with pressed formats as well. By following these steps, the final product becomes consistent, soft, and easy to apply, fulfilling both functional and aesthetic expectations. Overall, this formulation offers an effective natural cosmetic with good performance, making it a practical option for small-scale production, research projects, or early-stage beauty brand development.

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