

A Review on Formulation and Evaluation of Single-use Beetroot Face Wash Pellets

Shahnaz.S, Shijila.K, Thasleema.K, Fahmeeda.K, Favad.T.K, Divya Gupta

(Nehru College of Pharmacy, Pampady, Thiruvilwamala, Thrissur, Kerala-680588)

ABSTRACT

A cleanser is a facial care product that is used to remove makeup, dead skin cells, oil, dirt and other types of pollutants from the skin of the face. A cleanser can be used as part of a skin care regimen together with a toner and moisturizer.^[1]Single-use Face Wash Pellets are easy to carry and convenient for travelling.^[2]These single use pellets contain Beetroot as a primary ingredient. Beetroot is also known as *beeta Vulgaris* commonly called as beet. Beet has refreshing, skin lightening and deep cleansing effect on the skin. No matter what the skin type is, the beneficial ingredients in Face Wash Pellet leave it soft, supple and silky.^[3]

Materials and methods : Beetroot powder, Rice powder, Colloidal Oatmeal , Powdered rose petals, Coconut milk powder and Sodium Cocoyl Isethionate powder are mixed uniformly to form a fine powder and undergo Pelletization technique to produce Beetroot Face Wash Pellet.

Result : A Single-use Face Wash Pellets which are capable of producing a deep cleansing effect was prepared and evaluated successfully.

INTRODUCTION

Cosmetics is a Greek word which means 'adorn' (addition of something decorative to a person or a thing). FD&C act defines cosmetics as articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into or otherwise applied to human body for cleansing, beautifying, promoting attractiveness or altering the appearance. Cosmetics include skin care creams, lotions, powders, perfumes, lipsticks, finger nail and toe nail polish, eye and facial makeup, colored contact lenses, hair colors, hair sprays, baby products, bath oil, bubble bath, bath salt and many other types of products. A subset of cosmetics is called 'makeup' which refers mainly to colored products intended to change the user's appearance.^[4]

Drugs used in cosmetics to control acne, anti-wrinkle effect, protect from sunburn, improved complexion, delayed effect of aging and improve skin textures, etc. Herbal cosmeceuticals are gaining great attention now a days due to their wide range of availability and fewer side effects.^[5]

Face Wash is the products which are used to cleanse face without drying it out. Face wash is also known as 'cleanser'. Face Wash product found to be equally good for all skin type. Face Wash is very helpful in removing dirt, oil and provides moisture to the dry skin. A cleanser dissolves away excess oil, makeup and grime from your

face. A Face Wash is a mild cleanser that does the vital job of keeping skin clean, germ free, smooth and fresh and moisturizes the horny layer without any harshness to the skin.^[6]

Beetroot Face Wash Pellet:

Maintaining clean and healthy skin is crucial for overall skin care. A key step in any skin care routine is the use of Face Wash, which helps remove impurities and pollutants while nourishing the skin.^[7] These Single use Face Wash Pellet contains ‘Beetroot’ as primary ingredient and has refreshing, skin lightening and deep cleansing effect on skin. Face wash pellets keep the skin soft and supple and moisturized, preventing it from drying due to weather and pollution. These Pellets are easy to carry and convenient for travelling.

Benefits :

- Easy to carry and convenient for travelling.
- Refreshes skin and deep cleanse.
- It makes the skin to look radiant.
- Eco-friendly and well tolerated by all skin types.^[2]

INGREDIENTS USED FOR THE FORMULATION OF BEETROOT FACE WASH PELLET:

- Beetroot powder
- Bentonite clay
- Rice powder
- Colloidal Oats Meal
- Coconut milk powder
- Powdered rose petals
- Sodium Cocoyl Isethionate (SCI)

1. Beetroot:



Red beetroot or beetroot, scientifically known as *Beta vulgaris Linn*, belongs to the family **Chenopodiaceae**.^[8] Beetroot benefits for skin are many. From a beauty point of view, it is high on anti-oxidants particularly betalains, which makes it a great ingredient for anti-ageing. It also helps reduce blemishes and gives the skin a rosy glow.^[9]

Benefits:

- It boosts collagen production.
 - It is anti-inflammatory and boosts the skin's appearance.
 - Keeps the skin hydrated.
 - Reduces dark circles.
 - Evens out the skin tone and keeps it supple.
 - Minimizes dark spots and brightens skin.
 - Reduces acne and blemishes.
 - Removes fine lines and wrinkles.^[10]
2. Bentonite clay: There are many clay based cleansers which need to be activated with water one of the advantages of this formulation is that there is no need for preservative system, making them ideal for beginner. Another advantage of this kind of formulation is that you can include clays without concerns about preservation. It offers a natural and effective solution for purifying and nourishing the skin.^[11]
 3. Rice Powder: It is derived from Ground Rice grains. It has gained recognition as an effective natural ingredient in facial care. A potent skin clearing agent has acne reducing qualities, it also regulates oil production which helps keep the pores fresh and unclogged.^[12]
 4. Colloidal Oats Meal: A finely ground form of Oats, has long being recognized for its skin soothing properties. It can work as an exfoliant, sloughing away dirt, oil, and dead skin cells. It can moisturize and reduce inflammation, meaning people often use it as a home remedy for dry, itchy, irritated skin.^[13]
 5. Coconut Milk Powder: It is a dehydrated form of coconut milk. It provides nourishment, hydration, anti-inflammatory and skin lightening properties.^[14]
 6. Powdered Rose Petals: It gives scent to cleanser and can reduce ageing effects.^[15]
 7. Sodium Cocoyl Isethionate: Sodium Cocoyl Isethionate is a great, anionic surfactant with a rich, dense lather. It is relatively mild, with a pH around 6. It is derived from coconut and can be purchased as flakes or powder. It is the surfactant we have chosen for our Beetroot Face Wash Pellet. It will make this a gentle cleanser with a slight foaming action.^[16]

METHOD OF PREPARATION:

1. Weigh out the ingredients in a bowl.
2. Mix ingredients together, stir them well and check the consistency.
3. Use a coffee grinder to make the consistency finer.
4. The powder is converted into pellets by pelletization technique.

EVALUATION TESTS:

1. Physical Appearance :^[17]

The Face Wash Pellet was studied for organoleptic character such as color, odor, and texture.

2. Skin irritation test :

The test was carried out by applying the product on back of palm and leave for 15 minutes.

3. Determination of pH :

The pH of the formulation was analyzed by using pH meter.

4. Washability :

After applying the formulation to the skin, the ease and extend of washing with water were personally accessed.

5. Stability studies :^[18]

The physical stability of the formulation was studied by storing it at various temperatures for 30 days. Face wash tested at both room temperature and in the refrigerator.

6. Foamability:^[19]

The formulation is applied on the skin and rubbed on the hand.

7. Microbial Test:

Contamination from raw materials, moulds, containers can lead to microbial growth. The test consist of plating a known mass of the sample on two selected media specifically suitable for the growth of bacteria, fungi incubating them for specified period to permit the development of visual colonies for counting.

CONCLUSION:

This review provides an overview of Single-use Beetroot Face Wash Pellets, its formulation and evaluation. The Face Wash Pellets are easy to carry and travel friendly. It provides deep cleansing effect and the beneficial ingredient, beetroot leaves the skin soft, supple and silky.

BIBLIOGRAPHY:

1. Khade Swati S, UchaleTusar. A review of Formulation and Evaluation of Herbal Face Wash. IJARCT, Volume 2, Issue 5, June 2022.
2. <https://mapani.co.in/index.php/product/single-use-face-and-body-wash-pellets/>

3. Johnson E. Beetroot (beta Vulgaris): Exploring the Botanical Wonders and Health Benefits. Journal of Nutritional Science, 15(2),123-145.
4. Dr.Ajaz A.S, Dr.Subhash V.D, Dr.Khailash R.B, Dr.Rageeb.M.D, A text book of Cosmetic Science, Vol 1(1), 2021, 11-16.
5. Rahul K.G, Pradeep S, Cosmeceutical role of Medicinal plant/Herb:A Review on commercially available Cosmetic ingredients, International Journal of Innovative Science and Technology, Vol 3(5). 2018, 70-73.
6. Dnyaneshwar S. Solanki, Prof. SurajDattatraySagrule. A Review article of Formulation, Development and Evaluation of Instant Whitening FaceWash .World Journal of Pharmaceutical Research, Vol 9, Issue 5, 2541-2557.
7. Thomson, J., et al.(2022): “Radiant Glow Facewash: A Comparitive Study on Efficacy and User Satisfaction”.Journal of Dermatological Research,12(2),215-230.
8. Shivani Chauhan, Kartik Chamoli, Shilpa Sharma. A Review paper-Beetroot, Journal of Pharmacognosy and Phytochemistry, 2020; sp9(2):424-427.
9. Lee,S., et al. (2022). “Exploring the Skin Benefits of Beetroot: A Comprehensive Review.” Journal of Cosmetic Dermatology,21(3), 567-578.
10. <http://www.healthshots.com/beauty/natural-cures/5-diy-beetroot-face-mask-for-glowy-skin/>
11. Smith.L., et al. (2022). “The Efficacy of Bentonite Clay in Facial Skincare: A Randomized Controlled Trial.”Journal of Dermatological Research,15(2), 123-138.
12. Johnson, M.,et al. (2022). “Evaluating the Efficacy of Rice Powder in Facial Skincare: A Double-Blind Randomized Controlled Trial.” Journal of Cosmetic Dermatology,20(4),567-578.
13. Smith,K., et al. (2022). “Exploring the Efficacy of Colloidal Oatmeal in Facial Skincare: A Randomized Controlled Trial.” Journal of Dermatological Research, 18(3), 215-230.
14. Nia Kusstianti. Et al.(2020). “Coconut Milk as an Alternative of Cosmetic Material for Thinning Hyperpigmentation on the Face Skin”. IJCSE,Vol 196,310-313.
15. <http://www.skinluv.in/blogs/organic-skincare/rose-powder-for-radiant-skin/>
16. <https://formulabotanica.com/powder-to-foam-cleanser/>
17. Jincy.V.Varghese, Athira.P., et al. “A Research on Formulation and Evaluation of Polyherbal Facewash”. IJCRT,Volume 10, Issue 4, April 2022.
18. Miss. PritiPawar, Miss. GauraviPacharne. A Review on Formulation and Evaluation of Ubtan Face Wash, IJARCT, Vol 2, Issue 5, June 2022.
19. Jaseer.J, Meera Ajay., et al. “Formulation and Evaluation of Face Wash”. International Journal of Pharmaceutical Research and Applications,Volume 7,Issue 2,2022.