Available online at www.worldscientificnews.com

World Scientific News

An International Scientific Journal

WSN 113 (2018) 157-163 EISSN 2392-2192

Preparation of Face Wash Using Activated Charcoal and Green Tea Extracts

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ABSTRACT

Due to the rapid development of urban cities in the recent decades the level of pollution in the air has increased exponentially, demanding the development of new variants of personal care products. Face being most exposed part of the body, comes in contact with pollution very easily making it difficult to maintain a healthy, bright and clear skin. The facial skin is thinner and more fragile as compared to the rest of the body. A cleansing product specially formulated for face should be used in order to retain the moisture and pH balance of skin. Activated charcoal has properties of deep cleaning and adsorbing impurities. This makes it a favourable ingredient for skin care products. Green tea is flooded with powerful antioxidants for treating acne & scars and also helps in anti-aging. This work aims at the preparation of two face washes. The first is prepared using activated charcoal and green tea extract and the second, without using activated charcoal and green tea extracts. The two face washes are then compared to determine their usability. The aim is to prepare a face wash to combat all the skin issues & to achieve a cleansed, moisturised & glowing face by using ingredients which benefit every skin type.

***Keywords*:** Facewash, Green Tea Extracts, Activated Charcoal

(Received 02 October 2018; Accepted 26 October 2018; Date of Publication 29 October 2018)

1. INTRODUCTION

A suitable cleanser has the benefits of an advanced cleansing, to remove the adhering impurities from face & also an additional anti-oxidizing agent for fighting free radicals is a must. Skin of the face being five times thinner than the rest of the body requires more care. There is a lot more to cleansing than just splashing water.

This work proposes a face wash, mainly comprising of, activated charcoal & green tea extracts due to their extensive qualities, making them a popular choice of the new era face wash.

Among these, a balanced combination of two surfactants are used, one being strong & other being mild, resulting not to be harsh on skin, effective cleansing & also maintaining essential moisture level of the skin. Other chemicals such as anti-oxidants, preservatives, fragrance enhancers, cleansing agents are also introduced to maintain the desirable physical stability of the face wash such as pH, viscosity, odour, preservation etc.

A cosmetic ingredient can have various chemical names (IUPAC name, common name, CAS name, etc.) in different countries. A system is created wherein each cosmetic ingredient is systematically named by the International Nomenclature Committee (INC) and published in the International Cosmetic Ingredient Dictionary and Handbook and is termed as INCI name (International Nomenclature Cosmetic Ingredients). INCI names are primarily used for the labeling of finished cosmetic products. The use of harmonized INCI names help to minimize the barriers that often hinder consumer understanding and international trade

2. RESULT / EXPERIMENTAL

This work encompasses the formation of a face wash ideal for all skin types with advanced cleansing action and benefits to combat the skin problems for a long run. In this preferred formulation, compositions are selected to provide a mild cleansing action with abundant rich foam.

The invention provides a mild skin cleansing formulation having a distinctive combination of activated charcoal & green tea, both brilliant for the human skin leaving it cleaned, softer & smoother.

The cleansing product made to surpass the tests, proving it not to be irritant on the face & efficient for daily use due to its suitable pH balance on the skin.

2. 1. Materials used

- Activated Charcoal[1]
- Green Tea Extracts[2]
- Potassium Hydroxide (KOH)[3]
- Sodium Laureth Sulfate (SLES)[4]
- Decyl Glucoside[5]
- Neolone MXP[6]
- Ethylene Di-Amine Tetra Acetic Acid (EDTA)[7]
- Aqua SF-1[8]
- Sodium Chloride (NaCl)[9]
- Distilled water[10]

- Parfum

2. 2. Method

Experiments were performed with all possible permutations & combinations of materials, to get the desired stable & efficient formulation of the face wash, especially not to be irritant on facial skin. Formulations were produced by continuous mixing of the weighed materials with the help of laboratory mixer.

Figure 1. Face Washes

2. 3. Experiments

The experiments that were performed in this work are listed below along with the tables representing the compositions used.

Experiment 1: Composition of Face wash with activated charcoal.

Experiment 2: Composition of Face wash with activated charcoal, green tea extracts and surfactant pellets.

Experiment 3: Composition of Face wash with activated charcoal, green tea extracts and surfactant solution.

Experiment 4: Composition of Face wash with activated charcoal, green tea extracts and surfactant solution using a mixer.

Experiment 5: Composition of Face wash using activated charcoal, green tea extracts and reduced amount of surfactant solution.

Experiment 6: Composition of Face wash without using activated charcoal and green tea extracts.

Table 1. Compositions (in percentage) of Experiment 1, 2 and 3.

S. NO.	INGREDIENT		COMPOSITION (%)		
	TRADE NAME	COMMON NAME	EXPERIMENT 1	EXPERIMENT 2	EXPERIMENT 3
1.	Potassium Hydroxide	Caustic Potash	0.3	0.3	0.3
2.	A-Sulfo-Ω-(Dodecyloxy)-Poly(Oxyethane-1,2-Diyl)	Sodium Lauryl Ether Sulfate	27.7	32.7	29.2
3.	Hydrogen Dioxide	Distilled Water	55	55	54.2
4.	2,2′,2″,2‴-(Ethane-1,2-Diyldinitrilo) Tetra Acetic Acid	Ethylenedinitrilo-Tetraacetic Acid (EDTA)	1	1	1
5.	Acrylate Copolymer	Aqua SF-1	5	5	5.25
6.	(2*r*,3*r*,4*s*,5*s*,6*r*)-2-Decoxy-6-(Hydroxymethyl)Tetrahydropyran-3,4,5-Triol	Decyl Glucoside	5	-	5.30
7.	NEOLONE MXP	NEOLONE MXP	1	1	1
8.	Sodium Chloride	Rock Salt	2	1	2.25
9.	Camellia Sinesis	Green Tea Extracts	1	2	1
10.	Activated Charcoal	Activated Charcoal	2	2	0.5
TOTAL			100	100	100

Table 2. Compositions (in percentage) of experiment 4, 5 and 6.

S. NO.	INGREDIENT		COMPOSITION (%)		
	TRADE NAME	COMMON NAME	EXPERIMENT 4	EXPERIMENT 5	EXPERIMENT 6
1.	Potassium Hydroxide	Caustic Potash	0.3	0.35	0.35
2.	A-Sulfo-Ω-(Dodecyloxy)-Poly(Oxyethane-1,2-Diyl)	Sodium Lauryl Ether Sulfate	27.25	26	26
3.	Hydrogen Dioxide	Distilled Water	58.7	58.7	59.4
4.	2,2′,2″,2‴-(Ethane-1,2-Diyldinitrilo) Tetra Acetic Acid	Ethylenedinitrilo-Tetraacetic Acid	0.5	0.1	0.1
5.	Acrylate Copolymer	Aqua SF-1	3.25	7	7
6.	(2*r*,3*r*,4*s*,5*s*,6*r*)-2-Decoxy-6-(Hydroxymethyl)Tetrahydropyran-3,4,5-Triol	Decyl Glucoside	5.5	6	6
7.	NEOLONE MXP	NEOLONE MXP	0.5	0.35	0.35
8.	Sodium Chloride	Rock Salt	2.5	-	0.8
9.	Camellia Sinesis	Green Tea Extracts	1	1	-
10.	Activated Charcoal	Activated Charcoal	0.5	0.5	-
TOTAL			100	100	100

3. CONCLUSIONS

The face wash were prepared keeping in mind that it suits all skin type as the formulation was kept mild. One having the properties of Activated Charcoal and Green Tea extracts clear the pores, removes dirt and nurtures the skin even in summers and the other one giving a pleasant feeling on the skin after every wash.

The face wash were prepared such that they were fit for daily use. Various tests were conducted which proved that the pH of the face wash was the same as what ideally should be used in a facial product. Cleaning action of the face wash was also tested to check the accuracy of the face wash.

It is concluded that the present research might hopefully bring advancement in the treatment of daily skin problems by using the essential ingredients having least required formulation for preparing a successful skin face wash.

Acknowledgement

A 'Skill India' can be groomed in the 'Temples of the Modern India' only. Project based learnings are the initial steps towards nurturing a future engineer. These programs are always a golden opportunity for understanding, learning, self-development, motivation in. We have thankfully been given an opportunity under the guidance of people having ocean of knowledge and skills.

We would like to thank Dr. Ismaeel Khan, Dr. Anamika Paul, Ms. Maham Malik for teaching us with a practical approach and for always being ready to guide in whatever possible way they could.

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