

Physiochemical Properties of African Black Soap, and It's Comparison with Industrial Black Soap

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Abstract African black soap was made from local materials which includes alkali from cocoa pods ash, palm kernel oil, aloe – Vera and honey. The result of the analysis showed that African black soap contained 9.528% moisture, 0.096% Alkalinity, 5.336% unsaponified neutral fat, 55.453% total fatty matter, 1.563% bulk density, 3.517% matter insoluble in water, 4.800% matter insoluble in ethanol, the titre value was 58.20%. The produced soap was compared with the industrial soap and found to be of high quality.

Keywords African black soap, Cocoa pod, Honey, Aloe-vera

1. Introduction

African black soap comes from plantain skins originally. Plantain is a rich source of vitamins A, E and Iron. (plantain is a popular food in Africa and other parts of the world). It looks much like a banana but its bigger and longer. The skin of the plantain is dried to a specific texture in order to achieve a particular colour, texture and smell. The roasting of the plantains determines the colour of the soap. African black soap halts from west African and is much sought after on account of its efficacious effect on the skin. It is known by many names, including ose Dudu as it is being called by the Yoruba people of western Nigeria term which literally means “black soap it has been used throughout the African Diaspora.

There are more than 100 different varieties of real African black soap. Black soap is known in west African by several names but the most common is Ose Dudu, which is derived from the Yoruba language of Nigeria,

Although referred to as “Black “African black soap. Its colour varies from a light brown to a deep black depending on the ingredient and method of preparation[1].

The oil used to make African black soap vary by region and include palm kernels oil, coconut cocoa oil, butter and Shea butter. Any combination of these ingredients is possible and determined based on availability. Coaster regions tend to use more coconut oil, savanna region use more Shea butter. In addition the potash that is used to make African black soap can be derived from the ashes of several plants leaf and the byproducts of Shea butter production. Most importantly,

authentic African black soap is made with hand made potash in small batches and is not manufactured in factories with commercial potash and refined oils[2].

The production and the recipe for the soap varies depending on the region of African where it is made. Most black soap are made with a blend of plantain skin, cocoa pod powder, tropical honey and virgin coconut oil. It is mostly hand crafted by village women in African who make the soap for themselves to support their families[3].

In addition, the potash (natural exfoliating additives) use to make African black soap can be derived from the ashes of several plant sources, including cocoa pods, Shea tree bark, plantain leaves, and the by products of Shea butter production. Most importantly authentic African black soap is made with hand made potash in small batch and is not manufactured in factories with commercial potash and refined oils

This African black soap is made in small batches following the traditional recipe of central Togo. It contained at least 45% of refined Shea butter {48%}. There are no chemical added as preservative, colour enhancers and this is the unique feature of black soap[4, 12].

Liquid African black soap is good for new born babies because of their sensitive skin. It is recommended for individual with sensitive skin. The colour of this authentic traditions made African black soap is very mild and pleasant with no fragrances added. The potash used comes from ashes of plantain leaves[5].

2. Materials and Methods

The materials used for the preparation of African black soap are as follows: Dye from cocoa pods, the oil extracts from palm nut, pot, stirrer, and burning stick.

250 pieces of cocoa pods were gathered and sun dried for

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two weeks for perfect drying. It was then burned to ashes and poured into big sieve 30 litres of water was added to it to produce the dye from ash. The dye was heated for about 24 hours. The oil was extracted by grinding the palm nut with a machine. It was later sieve to get the pure and neat form of the oil.

The base oil is extracted from palm by pressing the nut. The semi-liquid hot soap is scooped from the mixture of ash, oil and water left to solidify.

Determination of Physicochemical Properties

Physicochemical chemical properties of African black soap and industrial blade soap was determined according to the methods described by[6].

3. Results and Discussion

3.1. Result

The result of the experiment clearly shows the saponification process, produces soap.

3.2. Discussion

From table 1 above, which shows the physicochemical properties of black soap indicate that the moisture content was 9.52%, alkalinity (as free caustic alkaline) was obtained to be 0.09%, unsaponified neutral fat was 5.33%, matter insoluble in water was 4.8%. Matter insoluble in Ethanol was 4.800, chloride content was nil, blend ratio, glycerin and rate of wear were not determined and the creaminess was found to be very creaming.[6, 11].

Table 2 shows the comparison of the local black soap with the industrial black soap were observed to be the following. The moisture content of the local black soap was determined to be 9.528% while that of the industrialized black soap was 87.10% which show that the industrial black soap has more absorbed water content. The Alkalinity of the local black soap was 0.096% while that of the industrialized black soap was 90.00%, the unsaponified neutral fat of the local soap was 5.336% while that of the industrialized black soap was 0.381% which signifies that the local black soap has more unsaponified neutral fat that the industrialized black soap. The total fatty matter was 55.4353% while that of the industrialized black soap was 39.20% which signifies that the industrialized black soap had more total fatty matter. Titre value acid of the black soap was 58.20°C while that of the industrialized black soap was 0.32. The matter insoluble in water of the black soap was 3.517% while that of the industrialized black soap was 18.91. The matter soluble of Ethanol of the black soap was 4.80% while that of the industrialized black soap was 7.84 chloride was not determined in the African black soap, blend ratio was not determined, likewise hlycerne and rate of wear. The African black soap was found to be very creamy while the creaminess of the industrial black soap was found to be 2.24%. Dudu Osum Black Soap is a very good soap for skin care[6, 9].

Table 1. Physicochemical properties of black soap

Parameters	Result (%)
Moisture content	9.528
Alkalinity (As Free Caustic Alkali)	0.096
Unsaponified Neutral fat	5.336
Total fatty matter (TEM)	55.453
Chloride content	Nil
Bulk Density	1.563
Matter Insoluble in water (MIW)	3.517
Matter Insoluble in Ethanol (MIIE)	4.800
Blend Ratio	nd
Glycerine	nd
Rate of wear	nd

Nd :- Not determined

Table 2. Comparison of Local Black soap with Industrial Black Soap

Parameters	Local Black Soap %	Industrial Black soap (Dudu Osun) %
Moisture content	9.528	87.00
Alkalinity (As Free Caustic Alkali)	0.096	90.00
Unsaponified Neutral fat	5.336	0.381
Total fatty matter (TFM)	55.453	39.20
Chloride content	Nil	0.91
Bulk Density	1.563	NIL
Matter Insoluble in water (MIW)		18.91
Matter Insoluble in Ethanol (MIE)	3.517	7.84
Blend Ratio	Nd	74.21
Glycerine	Nd	10.84
Rate of wear (ROW)	nd	3.14
Creaminess	Very creamy	2.24
Titre °C	58.20	0.32

4. Conclusions and Recommendations

4.1. Conclusions

Conclusively, considering all the result about the comparison of African black soap and Dudu Osun, the production of African black soap should be given a better consideration in African as an alternative to the dependence of oil and other resources. Moreover, it has properties that are beneficial to a healthy skin, moreover, Dudu osun is another natural black soap, from Nigeria.[7, 8].

It is made from all natural ingredients and it is suppose to help to get rid of acne and fadescars. The local black soap also helps to get rid of acne and fade scars. Therefore from this research work, it is advised that the locally made block soap should be used.

Moreover, from the results of the physicochemical properties of African Black soap, Dudu osun should be used by all and sundry because of its good quality.

4.2. Recommendations

Based on the facts above concerning the production and physiochemical properties of the locally made black soap, it is my pleasure to recommend the wide use of the black soap to our generation.

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