THE COMPOSITION OF SOAPS AND ITS EFFECT ON SOAP QUALITY

Akbarova Mohichehra Mashrabboyevna*; Mamazokirova Gulshoda Voxidjon; Odiljonov Ahmadillo Hamidjon ugli*****

*Teacher,
Andijan State University, UZBEKISTAN
Email id: Akbarovamohichehra@gmail.com

**Student,
Andijan State University, UZBEKISTAN
Email id: gulshodamamzokirova@gmail.com

***Student,
Andijan State University, UZBEKISTAN
Email id: Odiljonovahmadillo@gmail.com

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ABSTRACT

This article provides information on the origin of soaps, the impact of changes in soap composition on changes in its quality. The women who did the laundry there noticed that the clothes were washed much better in this mixture, and gradually used this water not only for washing clothes, but also for washing the body. The carboxyl group is a polar group with a dipole moment of 1.7 D and has clearly exhibited water-like properties, including polar solvents. Attempts to introduce very fine foaming agents do not lead to the expected result because they do not stay in the soap for long and absorb it with their scent.

KEYWORDS: *Soap, palmitin, stearin, olein, myristin, laurin, beef oil, etalon.*

INTRODUCTION

Soap was known to people in the VI century BC. In those days, Finns and Gauls made soap from goat oil and tree ash. The ancient Egyptians boiled bull ash and goat oil to obtain a lipstick-like mass and used it for washing.

The earliest written sources on soap can be found in the works of the Roman writer and scientist Pliny the Elder (1st century BC). Galen mentioned the properties of soap as a cleanser. Saponarius - the profession of soap making was first mentioned by Theodore Pristianus in about **[1].**

The Romans called the soap sapo - according to legend, the name comes from the name of Mount Sapo. According to ancient legend, sacrifices were made on this mountain. Melted animal oil and wood ashes from the altar were washed away by the rain into the muddy soil of the Tiber River. The women who did the laundry there noticed that the clothes were washed much better in this mixture, and gradually used this water not only for washing clothes, but also for washing the body. The first soap baking sites were also found by archaeologists in the ruins of the famous Pompeii.

In the 11th century, our ancestor Abu Ali ibn Sina advised the use of soap to wash lepers. From then until the thirteenth century, soaps were on a par with medicines and medicines **[2].**

According to the data, soap is the most common means of hygiene for consumers in our country. Soap is used by 98% of Uzbeks, and more than 50% of citizens use an average of 4 bars of soap every three months. According to experts, more than 80% of people use hard soap. Currently, the demand for soap in the markets of Uzbekistan is in the millions of dollars. One of the most important tasks today is to study the chemical composition of some soap products produced in Uzbekistan and to develop proposals for their classification based on the results obtained **[3].**

Soaps, which are an aqueous solution of sodium and potassium salts of C10-C18 highly saturated and unsaturated fatty acids, are surfactants. Their chemical formula is structurally composed of two parts: hydrophilic and hydrophobic. For alkaline salts of fatty acids, the hydrophilic part is a saline carboxyl group - COONa or - COOK, and the hydrophobic part is a hydrocarbon chain consisting of methyl CN_3, methylene CN_2 and metin CN groups. In surfactants molecules, the hydrophilic part - the head, the hydrophobic part - is called the tail part. Both parts are connected by an C-C covalent bond.

The carboxyl group is a polar group with a dipole moment of 1.7 D and has clearly exhibited water-like properties, including polar solvents. The hydrocarbon chain is electronically neutral and soluble in all but non-polar solutions, including fats and oils, so the hydrophobic part is also called lipophilic.

DISCUSSION

In general, those that can exhibit obvious properties, such as polar ones (e.g., water), even in non-polar ones (e.g., oils and fats) are called amphibians. For soap to be surfactants like amphiphilic, the lipophilic (tail) part of its molecule must be long enough (not less than C7) and equal to the hydrophilic (head) part. The ratio or hydrophilic-lipophilic balance (GLB) between the hydrophilic and lipophilic parts in a soap molecule determines its structure and properties.

Surfactants can be classified according to the nature of the ionic charge in solution: anion surfactants, cation surfactants, ion-free surfactants. This classification is determined only by the nature of the hydrophilic ion charge of surfactants, since the hydrophobic group is always ion-free. Therefore, the term "anionogen" refers to negatively charged surfactants, "cationogen" to positively charged, and "noninogenic" to non-charged ones.

Fatty acid soaps enter the anion surfactants and electrolytically dissociate in an aqueous solution to form a surfactant anion of fatty acid and hydrated Na + and K + cations by the following reaction:

$$RCOONa \leftrightarrow RCOO^- + Na^+$$

In 2004, a new international standard "Household hard soap" (GOST 28546 - 2002) came into force. This standard justified modern conclusions about soap: household hard soap is produced for personal hygiene with or without the addition of natural sodium salts or natural and synthetic fatty acids.

According to this document, household hard soaps are divided into the following brands according to their consumer properties: "Neutral", "Extra", "For children" and "Original". Household solid soap must be manufactured in accordance with international standards,

technological regulations or guidelines, as well as the recipe and other technical documents of the soap approved by the manufacturer **[4].**

To answer the question about the relationship between soap composition and soap composition and quality, it is necessary to explain the following questions: whether the soap is made from good or bad raw materials, whether the recipe is followed, what is the manufacturer's hardware and whether there are any defects in the soap? - does not crack or oxidize and is economically viable when using soap.

Cooking the soap base of household solid soap is a more difficult task than compiling the recipe of the base oil mixture to cook ordinary household soap **[5].**

The composition recipe should show the surfactantse washing effect in hot and very hot water as it does in cold water use. In this case, the soap should not wear out as usual, form a good foam, do not scatter and do not tarnish. Such properties are achieved by adding to the soap an oily mixture of different fatty acids (corresponding to the fraction S12 - S18) in a precise ratio with each other. Household hard soap should also have an attractive brand appearance - a bright background and a sweet aroma, which is achieved by adding non-odorous (deodorized), bright and clear oils to the recipe. The existing conditions for the preparation of the soap base are good plasticity and good mechanical processing, stamping, obtained after drying the soap.

In world practice, the standard for good solid household soap is the following recipe recipe: 80-85% stain oil (with titer of fatty acids at 41-430S) and 15-20% coconut oil. This content ensures that the oil mixture contains 20-22% stearin, 23-25% palmitic, 11-15% myristic and lauric and 35-37% oleic acid, which improves the physicochemical and consumer properties of the soap and is necessary for its mechanical processing. creates conditions.

At present, due to the sharp increase in imports of the main components of soap and oil raw materials, changes are being made to the old soap-making traditions. In the mid-1990s, the technical policy of the household soap industry was focused on the production of cheap soap in sweet-smelling, brightly colored and beautiful packaging due to the loss of the main quality indicator of household soap - the effectiveness of washing under conditions of use. In the 3rd millennium, the main indicator (along with the smell, color and packaging) became the consumer properties of soap, which are inextricably linked with the quality of the oil raw material used in it, the soap recipe and preparation technology. Consumption properties include long-term soaping, the effectiveness of washing in water of different hardness, non-cracking of the soap bar and other indicators **[6].**

Result. Consumer properties of household hard soaps consist of three ingredients: greasy recipe, additives and technology. However, the addition of foaming agents to the soap base should be done after in-depth research, primarily an alkaline environment (pH 9-11) and an unknown amount of excess alkali (up to 0.2%).

Foams are a helpful tool to make it better, more wonderful when using soap. Soap foams are always rougher than perfumes, colognes and other cosmetics. Attempts to introduce very fine foaming agents do not lead to the expected result because they do not stay in the soap for long and absorb it with their scent. On the other hand, it should be borne in mind that not all foaming agents can be included in soap.

Therefore:

- Synthetics can be added to the soap instead of expensive natural essential oils, but very small amounts of natural ones can be added;

- Not only new, but also partially osmotic foaming agents can be added **[7].**

The amount of foaming agent added is measured by its cost, foaming, and odor intensity, so it is difficult to find an exact ratio in advance. 1% foams for medium quality soap, close to 2% for good soap, up to 3% for high grade. Excessive foaming is detrimental to soap because essential oils and synthetic foaming agents behave like grease and greasy dirt in relation to soap, as experiments have shown that part of the soap is lost in emulsifying the foaming agent, i.e. it sinks out of the overall detergent balance and reduces the washing effect. Therefore, soaps with very large amounts of foaming agents, although of better quality than non-foaming soaps, have a lower washing ability than them **[8].**

Odor fixation on soaps is similar to odor fixation on perfumes. Among the real fixatives we can first get the basics of balm: toluan balm, frankincense, peruan balm and others. Very good results can be obtained if benzoyl resin, etc. (Sumatra can also be obtained), styrax, mainly taken in equal proportions with methylabietat.

The foam is often added to the soap without dissolving it for a long time, but this is incorrect. In particular, it contains a very small amount of garpius, absorbing odors even from the air, although the soap itself is a good fixative, but the fragrant substances remain in the soap when they are densely packed in the soap fragments, not the soap fragments.

Therefore, foams should be rationally dissolved with equal or at least half the amount of alcohol or acetone before adding them to the soap. When they are introduced, the last considerable volatiles evaporate without leaving an odor.

Synergists also use compositions of perfumery products for soap, especially tsibet, musk, amber, sage musk oil, synthetic musk and others.

The rule is as follows: the soap base can never be prepared for later use.

Discoloration and odor attenuation of household soap compositions are often carried out under the influence of light, air, heat, forming a bond with free alkali, in some cases two or more of these factors are used.

CONCLUSION

To study the chemical composition of some soap products produced in Uzbekistan, to determine the impact of changes in the composition of soaps on its quality, and on this basis to develop our proposals.

Based on the goal, we have set the following tasks:

1. Determining the level of study of the topic on the basis of the analysis of the literature and electronic sources on the subject, an analysis of the work done in this area.
2. To study the chemical composition of soap products and the current state of the requirements of the State Standard imposed on them.

3. Study of soap factories in the country.
4. Determining the main brands of soaps in the Uzbek market and the adherence to the recipe in their production.
5. Determination of antimicrobial properties of soap.
6. Determination of the mass fraction of fatty acids in soap.
7. Determining the quality quantity of soap.

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