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PHYSICO-CHEMICAL INDICATORS COSMETIC CREAMS FOR THE SKIN

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Keywords: cosmetic creams, physico-chemical parameters, pH values, stability.

The relevance of the physicochemical parameters of cosmetics, including skin creams, is determined by their widespread use. It is important to know the chemical composition, biological activity and toxicity of all ingredients of cosmetic creams.

Not all cosmetic creams sold in the trade system meet the requirements of quality standards. Studies conducted in recent years show that many ingredients of perfumery and cosmetic products, previously considered inert to the skin, can significantly affect the biochemical processes in the epidermis, lipids and skin proteins [1]. Detailed research is especially important now, when there are many environmental factors in the world that adversely affect health. New data obtained as a result of the study of creams can be used in human ecology. These data can also form the basis for taking measures to improve the production of an environmentally friendly cream.

The purpose of the work is to check samples of cosmetic face or hand creams for compliance with the requirements of technical documents declared by manufacturers.

Material and methods. The object of the experimental study was eight samples of cosmetic creams for the face and/or hands, nails, which contain certain forms of vitamins E, A and "vitamin F". The creams were previously purchased from a commercial network for personal use and were usually already opened prior to analysis. All creams were analyzed within their expiration date.

1. "Regenerating Moisturizer". Manufacturer: "Evelinecosmetics" (Poland).
2. "Nourishing cream with aloe vera and whitanium". Manufacturer: "HimalayaHerbals" (India).
3. "Face cream protection from cold and frost". Manufacturer: "Belita – Vitex" (Minsk).
4. "Intensely moisturizing cream with natural vitamin E". Manufacturer: Himalaya Herbals (India).
5. "Night face cream". Manufacturer: "Black Pearl" (Russia).
6. "Cream for hands". Manufacturer: "MaryKay" (USA).
7. "Fatty cream with" vitamin F". Manufacturer: "CAVIALE" (Russia).
8. "Super Moisturizing Serum Hand Cream". Manufacturer: "Belita – Vitex" (Minsk).

Research method – physical and chemical testing of cosmetic creams for compliance with the requirements of GOST.

Determination of the pH value of cosmetic creams having an emulsion consistency is carried out in an aqueous extract. 1g of the test product is placed in a glass, adding 99

ml of distilled water, heated with stirring to a temperature of 80°C, until the emulsion is completely destroyed, i.e. separation of the oil layer. Then, it is cooled down to (20±2)°C, followed by separation of the water layer. The prepared solution is placed in a glass with a capacity of 50 cm³, the ends of the electrodes are immersed in the liquid under study. The electrodes should not touch the walls and bottom of the glass. The pH values are taken on the instrument scale [2].

To test the thermal stability of oil/water cosmetic creams, cylinders with a capacity of 25 cm³ are used, filling them 2/3 of the volume with the test emulsion, making sure that no air bubbles remain in the emulsion. The cylinders are closed with stoppers and placed in a thermostat with a temperature of 40-42°C for 24 hours.

When determining the thermal stability of an emulsion of the water / oil type, the contents of the cylinders after 1 hour of thermostating are carefully mixed with a glass rod to remove air. The emulsions are kept in a thermostat for 24 hours and then the stability is determined [3].

Findings and their discussion. Based on the results of testing for the determination of the pH value, the indicators presented in Table 1 were obtained.

Table 1 – Physico-chemical parameters of cosmetic creams

Cream samples	pH values
Regenerating Moisturizer	5,6
Nourishing cream with aloe vera and withania	7,9
Face cream protection from cold and frost	8,4
Intensely moisturizing cream with natural vitamin E	6,3
Night face cream	7,3
Hand cream	7,4
Fat cream with "vitamin F"	5,4
Super moisturizing hand cream-serum	6,1

In the course of obtaining pH measurements of the creams "Evelinecosmetics", "Nourishing cream with aloe vera and vitania", "Belita – Vitex", "Intensively moisturizing cream with natural vitamin E", "Black pearl", "MaryKay", "CAVIALE", "Super moisturizing cream-serum for hands", the pH values of creams containing herbal extracts, fruit acids and their derivatives were obtained, the norm of which is allowed within 3,0-9,0. Based on the indicators presented in the table, it follows that the pH values of the studied cream samples correspond to the permissible limits of the pH value.

As a result of determining the stability of the creams "Evelinecosmetics", "Nourishing cream with aloe vera and vitania", "Belita-Vitex", "Intensively moisturizing cream with natural vitamin E", "Black pearl", "MaryKay", "CAVIALE", "Super moisturizing cream-serum for hands" after thermostating in test tubes of the studied samples, no separation of a layer of water or oil phases was observed, which indicates the stability of the studied creams.

Conclusion. Physical and chemical analysis of cosmetic creams "Regenerating Moisturizing Cream", "Nourishing Cream with Aloe Vera and Vitania", "Face Cream Protection from Cold and Frost", "Intensive Moisturizing Cream with Natural Vitamin E", "Face Night Cream", "Hand cream", "Fatty cream with "vitamin F", "Super-moisturizing cream-serum for hands" confirmed their compliance with GOST requirements.

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SOCIAL MEDIA MARKETING (SMM) IN CHEMISTRY TEACHING

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Keywords: teaching chemistry, digital technologies, Social Media Marketing, SMM.

The educational process has always been communicative, as it was based on communication, it assumed a connection between its participants. As information networks develop, communication channels expand, influencing all stages and forms of continuous chemical education [1].

At this stage in the development of society, social networks are of great importance in the digital technology market. According to the Digital 2022 Global Overview Report, an annual global survey of the state of the digital sphere (Digital 2022 Global Overview Report), which is conducted by the creative agency We Are Social and the service for SMM Hootsuite in 2021, the number of social media users grew by more than 10% and totals 4,62 billion – that's 58,4% of the total world population. In 2021, 424 million users joined social networks, averaging over 1 million people per day, or about 13 new users every second. This dynamics shows that the future lies with social networks [3]. The task of Internet promotion is becoming relevant for educational institutions.

The purpose of this study is to determine the role of social media marketing (SMM) in the system of chemistry education.

Material and methods. The material of the study is managers and social media resources of a chemical orientation and the content of the course "Chemistry" in the system of general secondary and higher education [2]. The following methods were used in the research process: theoretical (analysis, synthesis, generalization); diagnostic (content analysis), empirical (studying the experience of educational institutions, pedagogical observation).

Findings and their discussion. To date, there are no comprehensive scientific works in Belarusian sociology that reveal the impact of social networks on education. Social Media Marketing (SMM) is seen as an economic resource in promoting a certain product in the market. Social networks have become a powerful tool for career guidance. We analyzed the social network Instagram accounts of chemical content. Based on this, it was concluded that most of them are taught by chemistry tutors. The rest is conducted mainly at the chemical faculties of higher educational institutions.