

THE ANALYSIS OF CAPSULES WITH SULFUR COMPOUNDED IN THE PHARMACY

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Introduction. Sulfur is a necessary component in the human body. It has a beneficial effect on the condition of the human skin, stimulates collagen production, enhances regeneration and rejuvenation of the epidermis. With deficiency of sulfur hair lose elasticity and shine, nails become dull and brittle, the skin begins to age quickly. Sulfur also has a bactericidal and antiparasitic effect used to treat skin diseases. The object of our study is capsules with sulfur compounded in the pharmacy, they are used for the treatment of acne, demodicosis, rosacea, oily seborrhea, alopecia, psoriasis, staphylo- and streptoderma, tinea versicolor, enterobiasis.

Aim. To develop the methods of analysis of capsules with sulfur compounded in the pharmacy.

Materials and methods. The study object was capsules with sulfur, 0.25 g, No.40. Identification of capsules with sulfur was carried out by burning their content. To conduct the quantitative determination of sulfur in capsules the method of reverse alkalimetry in the presence of the concentrated hydrogen peroxide oxidizer was chosen.

Results and discussion. Sulfur was identified by the characteristic odor of sulfur oxide (IV) evolved by burning 0.01 g of the capsule content and melting of the mixture. The quantitative determination was performed by the following procedure: 0.100 g of the capsule content was shaken with the mixture of 25.0 ml of 0.5 M potassium hydroxide alcoholic solution and 5 ml of water *R* in a conical flask. The flask was placed on a boiling water bath and heated to complete dissolution of sulfur and removal of ethanol. To the resulting yellow solution 20 ml of water *R* was added, the flask was covered with a funnel, and the content was boiled for 10 min. To the hot solution 4 ml of concentrated hydrogen peroxide was added in small portions while stirring till discoloration of the solution. After cooling the solution the funnel was washed with water *R*, then 2 drops of methyl orange solution *R* was added and titrated with 0.5 M hydrochloric acid solution. In parallel, the control experiment was performed.

Conclusions. The methods for identification and quantitative determination of sulfur in capsules compounded in the pharmacy have been developed. The statistical processing of the results obtained has been conducted.