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ABSTRACTS

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DETERMINING THE SAFETY OF TOBACCO EXTRACT BY EXAMINING ITS TRACE ELEMENT COMPOSITION

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Abstract: Tobacco extract is widely used in various industries, because it contains many activities components. There comes the question about its safety. Therefore, determination of the microelement composition of this extract is an important topic as for today.

The object of the study was the ethyl alcohol (EC) extract from tobacco plant material. Microelement composition of tobacco extract was investigated by mass spectrometry (MS) with inductively coupled plasma (ICP/MS) on Agilent 7500 CE ICP/ (USA) instrument.

In the extract of tobacco determined the trace element composition for 24 elements, their total content is 3.128 mg/dm3. According to the data of the study, it can be concluded that the tobacco extract has a high content of Zn (0,925 mg/dm3) and Cr (0,356 mg/dm3). Zinc and chromium – the most important and indispensable for the vital functions of human body of trace elements. Zinc is a powerful antioxidant that prevents the formation of free radicals. However, in the extract there is an increased content of Al and there are also such toxic substances as Pb, Rb, As, but their content is within normal limits (≤10 ppm).

Therefore, the studied tobacco extract can be considered safe and we can use this tobacco extract in prepering cosmetic products.

Key words: *ICP/MS method, mass spectrometry, microelements, safety, tobacco extract.*