

DETERMINATION OF STRONTIUM IONS IN WATERS WITH A HIGH CONTENT OF SODIUM IONS

Tatiana Mitina^{*}, Nadejda Bondarenco, Diana Grigoras, Elena Botizat, Tudor Lupascu

Institute of Chemistry of Academy of Sciences of Moldova, 3, Academiei str., Chisinau MD-2028, Republic of Moldova
**e-mail: mitina_tatiana@mail.ru; phone / fax (+373 22) 73 99 77*

Abstract. This paper reports on the influence of sodium ions on experimental determination of strontium ions concentration in waters with a high content of sodium ions by using emission flame photometry and atomic absorption spectroscopy. For the method of emission flame photometry it was shown that at a wavelength of 460.7 nm (spectral emission line of strontium) the emission is linearly dependent on the concentration of sodium ions. The greatest impact of high concentrations of sodium ions on the result of determination the strontium ions concentration has been registered at low levels of strontium. The influence of nitric acid on the results is also discussed. In the case of using atomic absorption spectroscopy method no influence of sodium ions and nitric acid on the results of determination the strontium ions concentration was revealed. The metrological characteristics of both methods are evaluated.

Keywords: water analysis, strontium ions, emission flame photometric method, atomic absorption spectroscopy.

Received: June 2014/ Revised final: October 2014/ Accepted: November 2014