

ELECTROCHEMICAL ANALYSIS KANAMYCIN A SULFATE IN SMALL VOLUMES

Shevchenko O. G., assoc. prof. Kizim O. G., assoc. prof. Petukhova I. Yu.

The National University of Pharmacy, Kharkov, Ukraine

anchem@ukrfa.kharkov.ua

In pharmaceutical practice medicinal dosage forms with a small capital volume to which usual techniques of the ionometric analysis are applied seldom find application. In this regard was of interest to develop a technique of the ionometric analysis kanamycin a sulfate in small volumes with use of usual macroelectrodes and comparison electrodes. For measurements used developed by us earlier kanamycin a sulfate sensitive ion-selective electrode with the plasticized membrane containing as electrode activity substance an ionic associate kanamycin a sulfate with phosphomolybdic acid. As an electrode of comparison was used a silver-chloride electrode of the EVL-1M3 type. Measurement of EMF carried out on I-130 ionomer. For measurements used the device developed by us earlier which is represented by the holder executed in the form of a plate of glass on which two are put in parallel located capillary the channel which are microcameras for analyzed solution. Both of these channels are connected perpendicularly by the salt bridge. Length of vertical microchannels corresponded to diameter of a membrane of an electrode. The horizontal microchannel was symmetrized to the vertical. In points of intersection put on 1 drop of analyzed solution. The internal piece of the horizontal microchannel was filled with analyzed solution and thus electrolytic contact in a chain was provided. For measurement of EMF of a chain to one of points of intersection of microchannels was connected to the ISE membrane, and to another – the electrolytic bridge of an electrode of comparison.

As a result of researches it was established that the ISE function at measurement in 1 drop by means of the developed device remains in the same limits, as at measurements in solution macrovolume. There is invariable her steepness. Use of the device for the ionometrical analysis in 1 drop allows reduce a consumption of analyzed solution.

Therefore this technique can be applied to the analysis kanamycin a sulfate in injection solutions and drops.