

Abstract

In this thesis were, on the basis of earlier work, examined some of the conditions for the determination of triclosan by differential pulse voltammetry using carbon paste electrode and miniaturized carbon paste electrode. Phosphate buffer pH 11 was chosen as the most suitable medium of three supporting electrolytes with pH 11 and 12. The possibility of suppression of electrode passivation by addition of triton X-100 was studied.

In addition, the validation parameters were searched, which included limits of detection, linearity of the concentration dependence, repeatability, and accuracy of the method. From these parameters, applicability of the method and the particular electrodes was assessed.

Under the selected optimal conditions calibration curves for deionized, river and drinking water were measured. Detection limit with carbon paste electrode, was determined for deionized water to 120 ppb, for drinking water to 140 ppb and for river water to 90 ppb. The detection limit with miniaturized carbon paste electrode, was determined for the deionized water to 110 ppb , for drinking water to 130 ppb and for river water to 140 ppb. The linearity of the calibration curve was evaluated using the correlation coefficient.

The samples of drinking and river water were then measured using carbon paste electrode and miniaturized carbon paste electrode under optimal conditions, content of triclosan was determined by standard addition method., Precision of the method using the method repeatability and accuracy of the method, which have been assessed according to the method recovery, was determined from the measured values.