

KINETIC AND POTENTIOMETRIC ASSAY OF FORMALDEHYDE IN REAL SAMPLES, MONITORED BY COPPER SOLID ION SELECTIVE ELECTRODE, AFTER ITS REACTION WITH $[\text{Cu}\{(\text{CH}_2\text{NH}_2)_2\}_2]\cdot\text{SO}_4$.

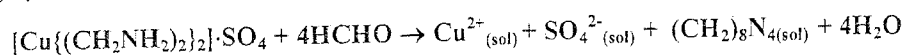
H. Tsaousi^a, P. Veltsistas^{*a}, P. Dimovasilis^a, D. Stergiou^a, S. Karkabounas^b, and A. Vlessidis^a.

^aUniversity of Ioannina, Dept. of Chemistry, Lab. Analytical Chemistry, 45110-Ioannina, GREECE

^bUniversity of Ioannina, Dept. of Medicine, Lab. Physiology, 45110-Ioannina, GREECE

* e-mail: panavelt@cc.uoi.gr

Many publications have been reported so far, regarding electroanalytical methods for HCHO determination^[1]. HCHO reacts quickly, quantitatively, irreversibly and stoichiometrically (2/1), with aquatic solutions of the stable complex Bis-(Ethylenediamino)-Cu(II)-Sulfate, thus demasking Cu(II) cations and producing the soluble ethylenediimine, according to the reaction scheme^[2]:



The Cu(II)-solid membrane ISE, type OP-CU-0711P RADELKIS^[3] is monitoring Cu(II) cations, being released and kinetic curves are taken. Their initial slopes, as well as their limiting potentials linearly correlate with HCHO concentrations. Calibration graphs are taken in concentration range of 50-250 ppm HCHO, at an optimum pH 7. The main advantages of the proposed method are the simplicity, the low cost and the speed of the measurements. It is recommended for HCHO assay, in relatively concentrated samples 0.02-0.04 M, as well as in diluted solutions 0.001 M. It can, also, be successfully applied in colored and turbid samples or emulsions, where other methods fail.