

# Electrochemical Method for Determination of Cyclamate using 12-Molybdophosphoric Acid

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*Procedure for quantitative determination of the Cyclamate (E-952) by a direct ionometric method with ion-selective electrode (ISE) has been developed. The electrode is reversibly selective to the product of Cyclamate decomposition - cationic complex of cyclohexene sulfamic acid with barium ions. Electrochemical sensor with Polyvinylchloride membrane having an ionic associate of cyclohexene sulfamic acid with barium ions and 12-molybdophosphoric acid as ion exchanger is proposed. It has been experimentally studied the influence of membrane composition and preparation procedure on electroanalytical characteristics of electrode, such as: electrode function, slope, linearity range, pH. The possibility of quantitative determination of the cyclamate in the food additive E-952 and other industrial products using the developed ISE is demonstrated. The method meets all the requirements of modern analysis - simple, safe and inexpensive, sufficient precise, sensitive and selective. Sensor response time doesn't exceed 50 s, and long membrane life (35-55 days) allows to perform analysis without replacement of the membrane. By means of sensor it is possible to determine Cyclamate in solutions containing  $10^{-5}$ – $10^{-2}$  mol/l with relative standard deviation less than 2.3%. ( $\bar{x} - \mu$ ) 100% /  $\mu$  < RSD.*

**eywords:** cyclamate; ion-selective electrode (ISE); 12 -molybdophosphoric acid; ionometry; sensor membranes

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