

Construction of a polymeric liquid-membrane ion-selective electrode (ISE) and its application for determination of nitrate in tomatoes

Pérez, María De Los A Arada

Nodarse, Isel Cortes

Yazdani-Pedram, Mehrdad

A potentiometric all-solid-state type ion-selective electrode (ISE) for NO_3^- was constructed and characterized. It is based on a mixture of tetra-decyl-ammonium nitrate (TDAN) as ionophore, di-butyl phthalate (DBP) as plasticizer and poly (vinyl chloride) (PVC) as matrix. Nitrate concentrations in tomatoes samples, randomly collected from central market at Santiago de Cuba, were determined using the described ISE by standard addition potentiometry. Spectrophotometric determinations using Brucine were performed as comparative method. Accurate and precise results were obtained. Accordingly, an analytical procedure for NO_3^- determination in tomatoes using the constructed ISE could be formulated.