

Abstract

Acid diffusion in the presence of hexamethyldisiloxane (HMDS) enables complete recovery of ionic fluoride from standards containing varying concentrations of aluminium as one of the main interfering ions. Acid diffusion without HMDS shows a decrease in fluoride recovery as aluminium ion concentration increases. The fluoride concentration in the trapping solution is determined directly on the diffusion cover with a combination fluoride electrode after neutralising and buffering. The same procedure was used for the analysis of fluoride in soil and plant materials containing high concentrations of aluminium ions. For the same samples, the concentrations of aluminium, iron and silicon were determined using atomic absorption spectrophotometer (AAS).