

Solid phase extraction of halogenated, organophosphorus and nitrogen-containing pesticides from river water samples. Analytical quality parameters

Baez, Maria E.

Navarro, Soledad

Solar, Alejandra

A study of matrix effects arising from river water samples using C18 SPE columns in the determination of 38 pesticides having different chemical properties is presented. Recoveries from river water samples of different origin and the influence of prefiltration step, pH and ionic strength were tested. A calibration equation for the extraction method was calculated by using the statistical method of linear regression, the independent variable being the amount of analyte added and the dependent variable, the amount of recovered analyte. Extractions were carried out in waters spiked with 65 to 1600 ng L⁻¹ of organophosphorus and nitrogen-containing pesticides, and with 12.5 to 320 ng L⁻¹ of halogenated pesticides. Only trifluralin, captan, aldrin, tri-allate, α -BHC, β -BHC, and azinphos-methyl behavior could not be described through a linear relationship due to low precision and, possibly, to interferences caused by the matrix sample. Linearity, analytical sensitivity, precision and limit o