


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**Abstract:** An on-line technique for the determination of chromium species with atomic absorption spectrometry is described. The method is based on separation and preconcentration of Cr(III) on a microcolumn of immobilized 8-hydroxyquinoline on surfactant-coated alumina. The adsorbed analyte is then eluted with 400  $\mu$  L of 20% ethanolic solution of 1.5 mol L<sup>-1</sup> hydrochloric acid and is transported to a flame atomic absorption spectrometer for quantification. The effects of pH, sample and eluent flow rate, sorption capacity, and the presence of various cations and anions on the sorption of Cr(III) were investigated. The sorption was quantitative in the pH 6-8 range, and for a sample volume of 35 mL a preconcentration factor of 98 was obtained. Total chromium was determined by efficient reduction of Cr(VI) to Cr(III) with hydroxylamine. The method was applied to the determination of chromium in electroplating wastewater samples.

**Key Words:** Chromium speciation, on-line preconcentration, 8-hydroxyquinoline, alumina, flow injection

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