

**MICELLE MEDIATED METHODOLOGY FOR THE DETERMINATION OF
IRON, COBALT AND NICKEL IN ENVIRONMENTAL SAMPLES BY FLAME
ATOMIC ABSORPTION SPECTROMETRY**

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ABSTRACT

A preconcentration methodology utilizing the cloud point phenomenon is described for the determination of Iron, Cobalt and Nickel by Flame Atomic Absorption Spectrometry (FAAS). The method employs the formation of complexes of the metallic species with ammonium pyroldinedithiocarbamate (APDC), which are subsequently entrapped in the micelles of the surfactant TX-114, upon increase of the solution temperature to 70°C. The surfactant micelles, after their dilution to an acidified methanolic solution, are delivered to the nebulizer of the FAAS by a Flow Injection Analysis (FIA) manifold, allowing for the reproducible injection of a small volume of the sample. The ability to handle the final texture of the injected solution allows for the single step determination of these metal ions, in a single sample, without interferences. The method was applied to the analysis of several real and spiked samples yielding satisfactory results.