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"Gheorghe Asachi" Technical University of Iasi, Romania

PRECONCENTRATION AND DETERMINATION OF SAFRANINE T IN ENVIRONMENTAL WATER SAMPLES

Songül Ulusoy[1], Halil İbrahim Ulusoy[2*]

[1]Cumhuriyet University, Faculty of Sciences, Department of Chemistry, 58140, Sivas, Turkey
[2]Cumhuriyet University, Faculty of Pharmacy, Department of Analytical Chemistry, 58140, Sivas, Turkey

Abstract

A micelle-mediated preconcentration method has been developed for determination of Safranine T at trace amounts, which is widely used in textile industry. It can be evaluated as one of the dangereous chemicalsdue to its carcinogenicity and toxic properties. The method is based on the cloud point extraction (CPE) of Safranine T at pH 8.0 in the presence of Triton X-114 as nonionic surfactant. The obtained surfactant–rich phase (SRP) was diluted with ethanol and its absorbance was measured at 532 nm. Experimental parameters affecting preconcentration and determination steps have been optimized. The obtained calibration graph was linear in the range of 4-200 μg L^{-1} and correlation coefficient was 0.9838. Detection limit was 1.14 μg L^{-1} and the relative standard deviation for 10 and 100 μg L^{-1} of Safranine T were 2.7 and 1.8 %, respectively. The method was applied for determination of Safranine T in environmental water samples with satisfactory results.

Keywords: cloud point extraction, environmental water samples, Safranine T, spectrophotometry

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[*] Author to whom all correspondence should be addressed: e-mail: hiulusoy@yahoo.com; Phone: +903462191010/3905; Fax:+903462191634