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Solid Phase Extraction of Cadmium in Edible Oils Using Zinc Piperazinedithiocarbamate and Its Determination by Flame Atomic Absorption Spectrometry

Mehtap YAĞAN AŞCI, Ayşegül EFENDİOĞLU, Bekir BATI
Ondokuz Mayıs University, Faculty of Arts and Science, Department of Chemistry,
55139 Samsun-TURKEY
e-mail: myagan@omu.edu.tr

 [Keywords](#)
[Authors](#)



chem@tubitak.gov.tr

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Abstract: A method was developed for preconcentration of cadmium with zinc-piperazinedithiocarbamate (ZnPDC) in edible oils and its determination by flame atomic absorption spectrometer (FAAS). The preconcentration method is based on the adsorption of the Cd(II) on to ZnPDC and the elution of them with mercury(II) nitrate. The accuracy of the method was tested with standard reference material (CONOSTAN S-21) and Cd added samples. Under optimum conditions, the recovery and the detection limit for cadmium were 99.67% (μm 0.67) and 0.028 mg/L, respectively. The calibration curve was linear over the concentration range 0.1-3.0 mg/L ($r^2 = 0.9979$). The proposed method was applied to the oil standard and commercial edible oils

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