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SPECIATION OF CHROMIUM IN SEDIMENTS, PLANTS AND WATER FROM "TABACARIE" LAKE

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Abstract

Chromium exists in nature in two oxidation state, +3 and +6. It is a bioelement in +3 state but mutagenic in +6 state. Therefore, the speciation of chromium in the contaminated environments becomes very important to understand its fates and exposure.
Used techniques are based on the determination of Cr (VI) and total chromium, and then Cr (III) is determined by difference. Cr (VI) is measured spectrophotometricall, as Cr (VI)-diphenylcarbazide complex, and total chromium after oxidation Cr (III) to Cr (VI) with H_2O_2 and KOH. The method was applied to the analysis chromium speciation in water, sediments and plants from "Tabacarie" Lake, Constantza district, Romania.
It was noticed that the sediments contain generally, Cr (VI) and Cr (III) species in higher concentration that plants, and in the water exist smaller quantities.

Keywords: chromium speciation, spectrophotometric method, environmental samples

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