



Application of Chemcatcher® in Lake Shkodra as a Passive Sampling Technology for Lake Water[#]

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Abstract: A number of alternative methods monitoring water quality has been developed to complement and/or replace 'spot' sampling methods. A Chemcatcher® variant sampler based on diffusion of heavy metals through a porous CA membrane to a receiving phase is used. Heavy metals are there removed by chelating process in a chelating Empore™ disk, which has been developed for metals monitoring. The sampler reacts with dissolved and or weakly complexes species which are species that dissociate within the diffusive boundary layer of the sampler. The system collects the bioavailable forms of heavy metals; mimicking bio monitors and immobilise the contaminants in situ avoiding speciation changes. For the field application of Chemcatcher® there were selected three different stations of Shkodra Lake, Albania. AAS method using graphite furnace as atomizer was used for analysing heavy metals concentration after the deployment of Chemcatcher® samplers. Cluster Analysis and PCA model of data treatment were used to identify the chemical model via the relation of the objects (monitory stations) and their data (heavy metals content).

Key words: Chemcatcher®, Empore™ disk, CA membrane, AAS, PCA, Cluster Analysis

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