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Determination of Bis(2-ethylhexyl) Phthalate in Water by High-Performance Liquid Chromatography with Direct On-Column Preconcentration

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Abstract—A technique for the direct preconcentration of bis(2-ethylhexyl) phthalate (DEHP) on a reversed-phase analytical column was proposed for the analysis of water samples by high-performance liquid chromatography (HPLC). A procedure for determining DEHP in surface water and atmospheric precipitations in the laboratory and in the field was developed (the limit of detection is $0.1 \mu g/L$, the limit of determination is $0.3 \mu g/L$, and the relative standard deviation is 20 or 6% at a DEHP concentration of $0.3 \text{ or } 10 \mu g/L$, respectively). The concentration levels of DEHP as a chemical tracer for the transfer and migration of air and water masses were examined in Lake Baikal water and in the snow cover of the Baikal region.