

Temporal Variation of PM10-Bound Benzo(a)Pyrene Concentration in an Urban and a Rural Site of Northwestern Hungary

Authors : Zs. Csanádi, A. Szabó Nagy, J. Szabó, J. Erdős

Abstract : The main objective of this study was to assess the annual concentration and seasonal variation of benzo(a)pyrene (BaP) associated with PM10 in an urban site of Győr and in a rural site of Sarród in the sampling period of 2008–2012. A total of 280 PM10 aerosol samples were collected in each sampling site and analyzed for BaP by gas chromatography method. The BaP concentrations ranged from undetected to 8 ng/m³ with the mean value of 1.01 ng/m³ in the sampling site of Győr, and from undetected to 4.07 ng/m³ with the mean value of 0.52 ng/m³ in the sampling site of Sarród, respectively. Relatively higher concentrations of BaP were detected in samples collected in both sampling sites in the heating seasons compared with non-heating periods. The annual mean BaP concentrations were comparable with the published data of different other Hungarian sites.

Keywords : air quality, benzo(a)pyrene, PAHs, polycyclic aromatic hydrocarbons

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