

Heavy Metals in PM2.5 Aerosols in Urban Sites of Győr, Hungary

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Abstract : Atmospheric concentrations of some heavy metal compounds (Pb, Cd, Ni) and the metalloid As were identified and determined in airborne PM2.5 particles in urban sites of Győr, northwest area of Hungary. PM2.5 aerosol samples were collected in two different sampling sites and the trace metal(loid) (Pb, Ni, Cd and As) content were analyzed by atomic absorption spectroscopy. The concentration of PM2.5 fraction was varied between 12.22 and 36.92 $\mu\text{g}/\text{m}^3$ at the two sampling sites. The trend of heavy metal mean concentrations regarding the mean value of the two urban sites of Győr was found in decreasing order of Pb > Ni > Cd. The mean values were 7.59 ng/m^3 for Pb, 0.34 ng/m^3 for Ni and 0.11 ng/m^3 for Cd, respectively. The metalloid As could be detected only in 3.57% of the total collected samples. The levels of PM2.5 bounded heavy metals were determined and compared with other cities located in Hungary.

Keywords : aerosol, air quality, heavy metals, PM2.5

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