

DETERMINATION OF POLYCYCLIC AROMATES, CHLORINATED INSECTICIDES AND POLYCHLORINATED BIPHENYLS IN THE AIR OF NORTH BOHEMIAN REGION

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SUMMARY

North Bohemia is recognized to be one of the most polluted areas in Europe. Combustion processes in several power plants, other industrial activities, transportation, waste incineration and household furnaces belong to the main sources of the air pollution. Therefore, the presence of numerous organic pollutants, namely polycyclic aromates (PAHs), chlorinated insecticides and polychlorinated biphenyls (PCBs) is expected to contribute significantly to the impaired health conditions. Samples of the ambient air collected in different seasons were analysed using GC-ECD, GC-MS and HPLC methods. Chlorinated insecticides and PCBs have been found of minor importance with concentrations laying below 0.1 ng/m³ and 1.0 ng/m³ respectively. Among PAHs, phenanthrene, fluoranthene and pyrene have been the major components. Concentrations of PAHs found during heating period have been about 10 times higher than those observed in the late spring. The role of household furnaces and motor vehicles in production of compounds is discussed.

Key words: ambient air, organic pollutants, polyaromatic hydrocarbons, North Bohemia

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