

**Benzene Air Pollution in the Silesian Region** – Halina Pyta, Jadwiga Błaszczyk, Krzysztof Klejnowski,  
Andrzej Krasa

Summary

The paper presents results of benzene monitoring in ambient air in the Silesian Region (Poland). Sampling points within the Region were chosen with respect to the population density, traffic intensity and presence of industrial emission sources of benzene (coking plants, refineries). Benzene concentrations were measured by means of the passive sampling by using sorption tubes filled with charcoal. The exposure time of each tube was 2 weeks. At each sampling point 12 tubes were exposed from August 2002 to July 2003. The results of the experiment proved differentiated degrees of exposure of the Silesian inhabitants to elevated, exceeding the limit value ( $5.0 \mu\text{g}/\text{m}^3$ ), concentrations of benzene. The mean annual concentration of benzene varied over the Region between  $4.09$  and  $9.26 \mu\text{g}/\text{m}^3$ , not exceeding the doubled standard (i.e. the limit plus 100% margin of tolerance, i.e.  $10 \mu\text{g}/\text{m}^3$  in total). The limit value for benzene concentration was exceeded at the majority of the sampling points. Results of the exemplary measurement performed in Zabrze with the use of an automatic BTX analyzer are also presented. The parallel exposure of a passive sampler gave similar benzene concentration.