Proceedings of the Third International Symposium on Air Quality Management at Urban, Regional and Global Scales. p. 1583, 26-30 September 2005, Istanbul – Turkey

SEASONAL VARIATIONS OF POLYCHLORINATED BIPHENYLS (PCBS) IN IZMIR, TURKEY

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ABSTRACT

Polychlorinated biphenyls (PCBs) are human made toxic chemicals which were first synthesized in 1920s. Because of their inverse effects on environment and human health the usage and production of PCBs were banned in 1970s in United States and all over the Europe. Due to their persistent structure, they are prone to long- range atmospheric transport they have been found even in remote areas.

In order to determine the atmospheric concentration levels in Izmir, total (gas+particle) PCBs (ΣPCB) and 41 PCB congeners, a long term sampling program were designed in the suburban atmosphere. In the sampling program fifty-two successive daytime (8.00 a.m.-8.00 p.m.) gas and particle phase air samples were collected between May 14, 2003 to and 4 April 2004 at the sampling station in Dokuz Eylül University, Tınaztepe Campus. Average sampling time was 12 h and average sampling volumes were 223±8. Meteorological data were obtained from a 10 m high tower located at the same site.

The concentrations of PCBs and their relation with temperature and wind direction will be reported in this study.

Keywords: Polychlorinated biphenyls (PCBs), suburban air concentrations, seasonal variation.