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Passive sampler-derived air concentrations for polychlorinated biphenyls in Puerto Rico

Nedim Vardar and Elizabeth Cruz
Inter American University, USA

Passive air samplers have been extensively used for monitoring the levels of semivolatile organic compounds (SOCs) both in indoor and outdoor atmospheres. In this study, airborne polychlorinated biphenyl (PCB) concentrations were measured by deploying polyurethane- disks (PUF) passive samplers in six municipalities namely Bayamon, Cayey, Carolina, Humacao, Lajas and Vega Baja. Preliminary results showed that the concentrations of the PCB congeners in the air ranged from not detected to 0.34 ng/m³. The total concentrations of 61-PCBs varied from 0.46 (Cayey) to 2.13 (Carolina) ng/m³. The lower chlorinated congeners (PCB-81 and below), which are more volatile and subject to long-range transport, represented only 0.24% and 0.80% of the total PCB concentrations for the samples collected at Carolina and Bayamon municipalities, respectively. These two sites have the two highest total PCB levels, and represent urban and industrial sources.

nvardar@bayamon.inter.edu