

ENVIRONMENTAL LEVELS II -POSTER

THE PRELIMINARY RESULTS OF INVESTIGATION OF PERSISTENT ORGANIC POLLUTANTS IN ST.PETERSBURG

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The largest industrial city in Northeastern part of Europe, St.Petersburg in Russia with its 4.9 million population, has a strong anthropogenic impact.

The problem of health risk from environmental contamination by persistent organic pollutants (POPs), such as dioxins and polychlorinatedbiphenyls (PCBs), has the same magnitude as other megapolices. Since 1997 a program of minimization of the risk is under way in St.Petersburg. The preliminary list of pollution sources (chemical enterprises using dioxin producing technologies, regions adjacent to the highways, storage of municipal and industrial waste, etc.) has been created. By monitoring the city territories, the specific sources of PCBs emissions were detected, and the map of PCB pollution was created as well. The results of analysis showed a permanent presence of 2,3,7,8-TCDD in samples with high PCB concentrations. Therefore, the monitoring of PCBs can serve as an important indicator of environmental contamination by dioxins. The evaluation of city population, i.e. nursing mothers has revealed a relatively high concentrations of PCBs in breast milk. The role of trophic chains has been proposed. The results indicating PCBs accumulation in fish from Ladoga Lake and Neva River confirmed these assumptions. The concentrations of PCBs were determined and detected as 202-563 microgramm/kg of fat. Other chlororganic compounds (hexachlorobenzene, hexachloro-cyclohexane and DDT) were found at high concentrations in fish tissues (mainly in spawn) from the river Neva and were dependent on the place of fishing, age and sex of collected fish. Currently the special health risk cohorts have been compiled for a special biomedical monitoring with emphasis on detection of PCBs and dioxins in human tissues and food products. It is extremely important to conduct the quantitative risk assessment from POPs in St.Petersburg city population using standardized