

MONITORING AND DISPERSE-PHASE DISTRIBUTION OF POLYCHLORINATED BIPHENYLS IN NATURAL WATER

M.V. MILYUKIN, M.V. GORBAN, M.M. SKRYNNYK

References:

1. Milyukin M.V., Goncharuk V.V. Khimicheskiy monitoring organicheskikh ekotoksikantov v vodnykh sistemakh. Kiyev: Naukova dumka, 2016, 312 s.
2. Safe S.H. Polychlorinated biphenyls: environmental impact, biochemical and toxic responses, and implications for risk assessment. *Critical Reviews in Toxicology*. 1994, 24 (2), P. 87–149.
3. Hagen P.E., Walls M.P. The Stockholm convention on persistent organic pollutants. *Natural Resources and Environment*. 2005, 19 (4), P. 49–52.
4. Milyukin M.V., Skrynnik M.M., Gorban M.V. Kontsentrirovaniye khlororganicheskikh pesttsidov i polikhlorirovannykh bifenilov na nositele guminovykh i fulvokislotakh iz vodnykh rastvorov poristymi polimernymi sorbentami. *Naukovyy visnyk Skhidnoevropeys'koho natsional'noho universytetu imeni Lesi Ukrayinky. Seriya: Khimichni nauky*, 2014, (№ 20 (297)), S. 14–25.
5. Milyukin M.V., Skrynnik M.M., Gorban M.V. Opredeleniye parametrov sorbtsii organicheskikh toksikantov. solubilitirovannykh TRITON X-100. pri ikh kontsentrirovaniyu poristymi polimernymi sorbentami iz vodnykh rastvorov. *Metody i obyekty khimicheskogo analiza*. 2015, 10 (№ 4), S. 189–194.
6. Shiu W.Y., Mackay D. A critical review of aqueous solubilities, vapor pressures, Henry's law constants, and octanol-water partition coefficients of the polychlorinated biphenyls. *Journal of Physics and Chemistry Reference Data*. 1986, 15, P. 911–929.
7. Gdaniec-Pietryka M., Wolska L., Namiesnik J. Physical speciation of polychlorinated biphenyls in the aquatic environment. *Trends in Analytical Chemistry*. 2007, 26 (№ 10), P. 1005–1012.
8. Hawker D.W., Connell D.W. Octanol-water partition coefficients of polychlorinated biphenyls congeners. *Environ. Sci. Technol.* 1988, 22, P. 382–387.
9. Abarnou A., Avoine J., Dupont J.P. et al. Role of suspended sediments on the distribution of PCB in the Seine Estuary (France). *Continental Shelf Research*. 1987, 7 (№ 11/12), P. 1345–1350.
10. Heemken O.P., Stachel B., Theobald N. et al. Temporal variability of organic micropollutants in suspended particulate matter of the River Elbe at Hamburg and the River Mulde at Dessau, Germany. *Arch. Environ. Contam. Toxicol.* 2000, 38, P. 11–31.
11. He M., Sun Y., Li X. et al. Distribution patterns of nitrobenzenes and polychlorinated biphenyls in water, suspended particulate matter and sediment from mid- and down-stream of the Yellow River (China). *Chemosphere*. 2006, 65, P. 365–374.
12. Guan Y.-F., Wang J.-Z., Ni H.-G. et al. Organochlorine pesticides and polychlorinated biphenyls in riverine runoff of the Pearl River Delta, China: Assessment of mass loading, input source and environmental fate. *Environmental Pollution*. 2009, 157, P. 618–624.
13. Hong H., Chen W., Xu L. et al. Distribution and fate of organochlorine pollutants in the Pearl River Estuary. *Marine Pollution Bulletin*. 1999, 39, P. 376–382.
14. Stachel B., Götz R., Herrmann T. et al. The Elbe flood in August 2002 – occurrence of polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans (PCDD/F) and dioxin-like PCB in suspended particulate matter (SPM), sediment and fish. *Water Science and Technology*. 2002, 50 (№ 5), P. 309–316.
15. Marvin C., Alaee M., Painter S. et al. Persistent organic pollutants in Detroit River suspended sediments: polychlorinated dibenzo-p-dioxins and dibenzofurans, dioxin-like polychlorinated biphenyls and polychlorinated naphthalenes. *Chemosphere*. 2002, 49, P. 111–120.
16. Schulz-Bull D.E., Petrick G., Kannan N. et al. Distribution of individual chlorobiphenyls (PCB) in solution and suspension in the Baltic Sea. *Marine Chemistry*. 1995, 48, P. 245–270.
17. Wurl O., Obbard J.P., Lam P.K.S. Distribution of organochlorines in the dissolved and suspended phase of the sea-surface microlayer and seawater in Hong Kong, China. *Marine Pollution Bulletin*. 2006, 52, P. 768–777.
18. Duinker J.C. The role of small, low density particles on the partition of selected PCB congeners between water and suspended matter (North Sea area). *Netherlands Journal of Sea Research*. 1986, 20(2/3), P. 229–238.
19. Swackhamer D.L., Armstrong D.E. Distribution and characterization of PCBs in Lake Michigan water. *J. Great Lakes Res.* 1987, 13 (1), P. 24–36.
20. Mudroch A., Kaiser K.L.E., Comba M.E. et al. Particle-associated PCBs in Lake Ontario. *The Science of the Total Environment*. 1994, 158, P. 113–125.
21. Milyukin M.V., Gorban M.V. Monitoring i dispersno-fazovoye raspredeleniye khlororganicheskikh pesttsidov v prirodnoy vode. *Metody i obyekty khimicheskogo analiza*. 2015, 10 (№ 4), S. 25–30.
22. Linnik P.N. Prichiny ukhudsheniya kachestva vody v Kiyevskom i Kanevskom vodokhranilishchakh. Khimiya i tekhnologiya vody. 2003, 25(4), S. 384–402.