

Chromatographic Analysis of Chloranilines in Aqueous Environments

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Environmental problems come first in the system of global problems after the problems of peace and war, and recently, as one of the most important global problems in the world, environmental problems are, above all, in the interests of all mankind. Aniline and its chlorinated derivatives, which are of great industrial importance, are used in the manufacture of textiles, cosmetics, medicines, food, paper and plastics. Aniline, which belongs to the class of dyes, changes its colour by mixing with clean water in the waste water, first of all, by contaminating the water. In addition to visual pollution, it prevents sunlight from entering the depths of the water by adsorbing or reflecting sunlight. This prevents the growth of various microorganisms and the photosynthesis of aquatic plants. As a result, the composition of natural waters changes and the amount of oxygen is significantly reduced. Research shows that the discharge of wastewater without treatment of aniline and its derivatives leads to the destruction of living organisms. Also, the fact that aniline is well soluble in water significantly increases this risk. With the help of highly efficient capillary columns and methods of modern concentrations of selective detectors (ECD, NPD), chloranilines can usually be determined directly from the required sensitivity level (0.05 µg / dm³ and 0.5-5 µg / dm³). The reason for this unsatisfactory sensitivity is that the presence of an amine group in chloranilines interferes with the sample and causes erosion and asymmetry of individual chromatographic peaks. The NH₂ group, on the other hand, is highly reactive to modify anilines. Using this, the removal of the amine group will have an equally positive effect on both the extraction concentration of anilines and their chromatographic determination. A solution with a concentration of 10 ppm (mass of solute in ppm-1 l of solution) is capable of destroying 50% of the organisms that are in the water and use it for 96 hours. The toxic effects of these compounds have been studied in several water sources in Azerbaijan.

Recent Publications

1. Daignault S.A., Noot D. K., Williams D. T. A review of the use of XAD resins to concentrate organic compounds in water // Water Res. - 1988. - V. 22 No 7. - P. 803-813.
2. Jink G. A., Richarg J. J. Interferences in solid phase extraction using C-18 bonded porous silica cartridges // Anal. Chem. - 1988. - V. 60. -No 13. - P. 1347-1350.
3. Pawliszyn J. Solid Phase Microextraction. Theory and Practice. - New York: Wiley, 1997. - 275 p.
4. Ouyang G., Rawliszyn J. SPME in environmental analysis // Anal Bioanal Chem. - 2006. - V. 386. - P. 1059-1073.

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5. Little J.L. Artifacts in trimethylsilyl derivatization reactions and ways to avoid them // J. Chromatogr. A - 1999. - V. 844. - P. 1-22.

Biography

Nabat Abdullayeva is a graduate from Sumgayit State University, Azerbaijan. The title of the dissertation is "Chromatographic Analysis of Chloranilines in Aqueous Environments". I am doing research on sampling wastewater from paints and pharmaceutical plants operating in Azerbaijan.