

Assessment of the levels of polychlorinated biphenyls in sediments of new Calabar River, Niger Delta Region, Nigeria

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Abstract. The concentrations of polychlorinated biphenyls (PCBs) in sediment samples from the New Calabar River in the Niger Delta Region of Nigeria were determined. Grab sediment samples were collected from five stations in the river and analyzed for individual PCB congeners using gas chromatography – mass spectrometer. The \sum_8 PCB (sum of eight congeners) identified in the samples ranged from 0.21 to 2.16 mg/kg. Congener 105 and 194 were the most and least abundant with 34.65 % and 2.46 % respectively. The lower chlorinated congeners (below PCB 101) were prominent with 54.68 % of the total PCBs concentration in the sediments. The results of this study should make PCBs contaminants of grave concern in the Niger Delta Region.

Keywords: sediments, New Calabar River, Niger Delta, polychlorinated biphenyls, congener.

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