

Examination of PAHs Contamination in Bushehr Shoreline in Summers

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Abstract

In order to investigate the polycyclic aromatic hydrocarbons (PAHs) concentration in the marine coastal area of Bushehr, seawater and sediment samples were collected from 5 stations along Bushehr shore line. The total PAHs (tPAHs) concentrations ranged from 4.0 to 31.0 $\mu\text{g L}^{-1}$ and 845.0 to 4790.0 ng g⁻¹ in seawater and sediment, respectively. Results showed that tPAHs concentrations in seawater and sediment were significantly different among the studied stations ($P < 0.05$). The maximum tPAHs concentration was measured in the seawater and sediment collected from Rafael while the minimum values were observed in the Abshirinkon station. The Concentration of anthracene, phenanthrene, fluoranthene and pyrene in seawater was appeared above the standard rate mentioned by Canadian environmental quality guidelines. Different patterns of tPAHs composition were observed in water and sediment among the studied stations. Based on the number of the rings in the molecules, 3 rings PAHs were dominant in the seawater, while in the sediment, 5 and 6 rings PAHs appeared in the higher concentrations. Comparison between tPAHs concentration in Bushehr coastal area with previously studied locations in the world showed that PAHs contamination in the Bushehr coastal area is considerable.

Keywords: *Pollution, PAHs, Sediment, Seawater, Bushehr.*
