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The Study of Polycyclic Aromatic Hydrocarbons (PAHs) Contamination in Sediments of Hormoz Straight - Persian Gulf

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Abstract

Polycyclic aromatic hydrocarbon (PAHs) is one of the most important environmental pollutants which originated from various sources. They are stable in seawater and especially in sediments and their degradation occur slowly. Sixteen numbers of this pollutant are introduced by Environmental Protection Agency (EPA) as serious carcinogen compounds. In this study, the contents of 16 PAHs compounds were determined in the sediments of Hormoz straight, Persian Gulf. The sampling was performed by Van Veen grab from 11 sites of Iranian waters of Hormoz straight. Determination of PAHs were performed by high performance liquid chromatography equipped with fluoresce detector. The results showed that the total concentration of PAHs varied between 72.17- 191.70 ng g_1 dry weight of sediments. Maximum individual concentration of PAHs was 19.72 ng g-1 belonged to flouranthene. Dibenzo (a,h) anthracene and flourene were not detected in all of the sampling sites. The total organic matters (TOM) of sampling sites were different from 8.25 to 2.75%. Comparison of PAHs concentrations in the studied sediments with that of other places in the world showed that the PAHs pollutions of studied sediments are medium to low. The results also showed that the source of PAHs pollutants can be attributed to the pyrolitic sources.

Keywords: *Polycyclic aromatic hydrocarbons (PAHs), High performance liquid chromatography (HPLC), Sediments, Hormoz straight, Persian Gulf.*