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THE STUDY OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) CONTAMINATION IN SEDIMENTS OF HORMOZ STRAIGHT - PERSIAN GULF

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Key Words: polycyclic aromatic hydrocarbons (PAHs), high performance liquid chromatography (HPLC), hormoz strait, persian Gulf.

Introduction

Polycyclic aromatic hydrocarbons (PAHs) are one of the most important environmental pollutants which are originated from various sources. The major sources of PAHs could be both natural and anthropogenic. They are stable in seawater and especially in sediments and their degradation occur slowly. In this study, the contents of 16 PAHs compounds were determined in the sediments of Hormoz straight-Persian gulf.

Material and methods

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.

Results

The results showed that the total concentration of PAHs varied between 72.17- 191.70 ng g⁻¹ dry weight of sediments. Eghtesadi et al. were observed 72.17_ 191.7 ng g⁻¹ of PAHs in the sediments of Northern part of the Persian Gulf. In the previous studies concentration of PAH in China [2], US [3], Korea [4] were reported 97.2-204.8, 80- 200000 and 9.1- 1400 respectively. 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. According to Baumard et al. classification, site1, 7, 10 and 11 were detected as low polluted areas and the other sites were determined as moderate polluted areas. The ratio of FLU/PY in all sites were higher than 1. These results show that the source of PAHs pollutants can be attributed to the pyrolytic sources.

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