

Occurrence of PAHs and PCBs in petrochemical wastewater

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Abstract The contamination status of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) released from petrochemical wastewater plant located in Constanta, Romania, after chemical and biological treatment were investigated. The samples were collected after tertiary biological treatment from two sampling sites: lagoon and tertiary stage effluent. PAHs have been extracted by stir bar adsorption and transferred in the analytical system by thermal desorption (TDS). The used analytical technique was gas chromatography - mass spectrometry (GC-MS). PCBs were concentrated by liquid-liquid extraction and analysed by GC. The quantification of PAHs and PCBs was accomplished to demonstrate that the lagoon (a natural system) has a very important role to decrease the level of pollution in the discharged effluent in the Black Sea due to the macrophytes and microorganisms activity from this lagoon.

Keywords: petrochemical wastewater, PAHs, PCBs, Black Sea.
