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NEW ADSORBENTS IN POLLUTION CONTROL

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The goal of the research was to elaborate new, high performance adsorbents for cleaning up the surface waters. The carbon nanotubes attract strong attention for the removal of petroleum derivatives due to their high sorption capacity. The surface modification of the carbon nanotubes aims at to improve the hydrocarbon sorption capacity of the carbon nanotubes. The surface modification of the multiwalled carbon nanotubes was implemented by microemulsion technique. The morphological and surface chemistry features of the unmodified and surface modified multiwalled carbon nanotubes were investigated by different techniques including BET, XRD and the features were correlated with the petroleum removal efficiency of the sorbents pretreated. The petroleum removal efficiency of the adsorbents prepared was tested by different analytical methods such as TOC and GC. Model hydrocarbon compounds also were used during the experiments.

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