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Ispitivanje upotrebe otpadne biomase za uklanjanje naftnih ugljovodonika iz vodenog rastvora

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Adsorpcija je jedna od najčešće korišćenih tehnika za tretiranje voda zagađenih naftom i njenim derivatima. U radu je ispitivana mogućnost primene otpadne biomase (koštice breskve, agroindustrijskog otpada), kao jeftinog biosorbenta, za uklanjanje nafnih zagađivača iz vodenog rastvora u stacionarnim uslovima. Biosorpcioni eksperimenti su obavljeni u erlenmajerima na na orbitalnom šejkeru u kojima je konstantna količina biosorbenta od 1 g mešana sa 100 ml vode kontaminirane naftnim ugljovodonicima u koncentacijama 4 mg/L, 12 mg/L, 18 mg/L, 24 mg/L, 30 mg/L, 40 mg/L and 80 mg/L. Dobijeni rezultati pokazuju da je otpadna biomasa efikasna u uklanjanju naftnih polutanata iz vodenog rastvora. Biosorpcija je potencijalno alternativna tehnika za prečišćavanje otpadnih voda. Njene glavne prednosti su niska cena, visoka efikasnost i obnovljivost.

Investigations of possibility for petroleum hydrocarbons removal from aqueous solution by waste biomass

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Adsorption is one the best commonly used technique for treatment of petroleum contaminated water. The biosorption potential of waste biomass (peach shell, agro-industrial waste) as a low-cost biosorbent for petroleum hydrocarbon from aqueous solution was explored. Biosorption experiments were carried out using a shake-flask technique with a constant amount of (bio) sorbent of 1 g mixed with 100 ml of water contaminated with petroleum hydrocarbons at concentrations of 4 mg/L, 12 mg/L, 18 mg/L, 24 mg/L, 30 mg/L, 40 mg/L and 80 mg/L. The obtained results show that waste biomass is efficient in the removal of petroleum pollutants from the water solution. Biosorption is a potentially alternative technique for wastewater treatment. Their major advantages are low cost, high efficiency, renewability.