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KNJIGA RADOVA**

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## Čišćenje naftnih mrlja pomoću netkanog sorbenta proizvedenog od post-industrijskog tekstilnog otpada

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Efikasno i jeftino čišćenje naftnih mrlja sa vode i tla kao i generisanje ogromnih količina tekstilnog otpada su goreći ekološki problemi koji zahtevaju hitno rešavanje. U pokušaju da se odgovori na oba izazova, proizveden je iglovani netkani sorbent od recikliranih vlakana jute iz industrije tepiha. Ispitan je uticaj površinske mase i debljine sorbenata na sorpcioni kapacitet za naftu u vodi i u nafti bez vode, sposobnost plutanja, sposobnost zadržavanja nafte i mogućnost ponovne upotrebe. Svi sorbenti su položili test plutanja. Površinska masa sorbenata i viskozitet testirane nafte i naftnih derivata (sirova nafta, dizel gorivo i dva motorna ulja) imaju snažan uticaj na sorpcioni kapacitet i sposobnost zadržavanja nafte. Sorbenti uglavnom zadržavaju do 50% svojih početnih sorpcionih kapaciteta nakon 5 ponovljenih ciklusa sorpcije što ukazuje da se mogu višekratno koristiti.

## Oil spills cleanup with non-woven sorbent produced from post-industrial textile waste

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Efficient and inexpensive cleanup of oil spills on water or land and huge generation of textile waste are burning environmental issues that are seeking urgent solutions. In an attempt to address both challenges, needle-punched non-woven sorbents (NWSs) based on recycled jute fibers from the carpet industry were manufactured. The influence of NWS area density and thickness on oil sorption capacity in water and oil without water, buoyancy, oil retention and reusability were studied. All NWSs passed the buoyancy test. The area density of NWSs and viscosity of tested oils (crude oil, diesel oil and two motor oils) strongly affect the oil sorption capacity and oil retention. NWSs mainly retain 50% of their initial oil sorption capacities after 5 repeated sorption cycles indicating that NWSs could be used several times.

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