

Nano and micro magnetic particles for removal dye from water sample

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The magnetic particles, including iron, cobalt and nickel, in the micron and nano-scale were used for fast and effective removing dye from environmental samples. Iron, cobalt and nickel in nano scale were synthesis by chemical reduction processes. The structure and morphology of all particles were characterized by X-ray diffractometer (XRD), scanning electron microscope (SEM) and transmission electron microscope (TEM). The efficiencies of these magnetic metals for removal Crystal Violet from water samples were examined. The effects of some parameters such as dose of adsorbent, temperature and contact time on adsorption were investigated. The isotherm data were fitted by Freundlich, Langmuir and Termkin equations and the maximum sorption capacity for each metal particle in nano and micro size were calculated. The metal particles were conveniently collected from the batch experiments by magnet. Results showed that the nano particles were more able to removal dye than micro size particles.

Biography

Marzieh Torabbeigi has completed her PhD at the age of 31 years from Science and Research Branch, Islamic Azad University, Tehran, Iran. She worked in chemical laboratory of faculty of Health, Safety and Environment of Shahid Beheshti University of Medical Sciences for 7 years. She has published 8 papers in reputed journals.

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