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"Gheorghe Asachi" Technical University of Iasi, Romania

CHARACTERIZATION AND TESTING OF THE MAGHEMITE NANOPARTICLES USED FOR REMOVAL OF HEXAVALENT CHROMIUM FROM AQUEOUS SYNTHETIC SOLUTIONS

Ecaterina Matei[1*], Andra Mihaela Predescu[1], Andrei Predescu[1], Eugeniu Vasile[2]

[1]Politehnica University of Bucharest, Material Science and Engineering Faculty, 313 Splaiul Independentei, 040062 Bucharest, Romania
[2]METAV CD, 31 C.A. Rosetti Street, 020011 Bucharest, Romania

Abstract

The paper refers at adsorption studies using the maghemite nanoparticles as adsorbent for removal of the hexavalent chromium from aqueous synthetic solutions. Adsorption reached at equilibrium within 10 minutes and was registered as maximum at pH 2.54. The adsorption data were analyzed and fitted by Langmuir isotherm. Investigation methods for characterization of the nanoparticles were X-ray diffraction, scanning and transmission electron microscopy. Also, in order to evaluate the hexavalent chromium concentration the atomic and molecular absorption spectrometry were used.

Key words: adsorption, chromium removal, maghemite

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[*] Author to whom all correspondence should be addressed: e-mail: ecaterina.matei@ecomet.pub.ro; Phone: +4021 4029829; Fax: +402 13169564