Characterizations and Cr (VI) adsorption properties of polyaniline/filter-paper composite - DTU Orbit (30/05/2019)

Characterizations and Cr (VI) adsorption properties of polyaniline/filter-paper composite

Polyaniline/filter-paper (PANI/FP) composite was prepared by in situ polymerization of polyaniline onto FP and subsequently evaluated for the removal of Cr (VI) from aqueous solution. Scanning electron microscopy and Fourier-transform infrared were used to investigate the morphology and physicochemical property of PANI/FP composite. Batch experimental results showed that pH value and temperature could affect the removal capability of PANI/FP composite. Langmuir and Freundlich models were used to analyze the equilibrium adsorption, and both of the two models showed the similar correlation coefficients (about $R^2 = 0.9383$). Although the removal capability was still limited, the PANI/FP composite showed the great potential that can be used as an effective adsorbent for removing Cr (VI) from industrial waste-water. POLYM. COMPOS., 35:993-998, 2014. (c) 2013 Society of Plastics Engineers

General information
Publication status: Published
Organisations: National Food Institute, Division of Industrial Food Research, Jiangnan University, Technical University of Denmark
Contributors: Li, X., Liu, W., Li, M., Li, Y., Ge, M.
Number of pages: 6
Pages: 993-998
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: Polymer Composites
Volume: 35
Issue number: 5
ISSN (Print): 0272-8397
Ratings:
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 1.58 SJR 0.633 SNIP 0.961
Web of Science (2014): Impact factor 1.632
Web of Science (2014): Indexed yes
Original language: English
Keywords: MATERIALS, POLYMER, AQUEOUS-SOLUTIONS, REMOVAL, CR(VI), CHROMIUM, CR(VI)-DETOXIFICATION, PRECIPITATION, WASTEWATERS, CELLULOSE, OXIDANT
DOI:
10.1002/pc.22745
Source: FindIt
Source-ID: 255275686
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review