

## Accepted Manuscript

Removal of lead ions from water using a resin of mimosa tannin and carbon nanotubes

Francisco H.M. Luzardo, Fermin G. Velasco, Ives K.S. Correia,  
Patrícia M.S. Silva, Luiz C. Salay

PII: S2352-1864(17)30071-8

DOI: <http://dx.doi.org/10.1016/j.eti.2017.03.002>

Reference: ETI 118

To appear in: *Environmental Technology & Innovation*

Received date: 18 June 2016

Revised date: 24 February 2017

Accepted date: 7 March 2017

Please cite this article as: Luzardo, F.H.M., Velasco, F.G., Correia, I.K.S., Silva, P.M.S., Salay, L.C., Removal of lead ions from water using a resin of mimosa tannin and carbon nanotubes. *Environmental Technology & Innovation* (2017), <http://dx.doi.org/10.1016/j.eti.2017.03.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Elsevier Editorial System(tm) for  
Environmental Technology & Innovation  
Manuscript Draft

Manuscript Number: ETI-D-16-00129R2

Title: Removal of lead ions from water using a resin of mimosa tannin and carbon nanotubes

Article Type: Research Paper

Keywords: Water pollution; Lead Adsorption; Tannin resin; Carbon nanotubes; X-Ray Fluorescence Spectrometry

Corresponding Author: Professor Francisco Martínez Luzardo, Ph.D.

Corresponding Author's Institution: Universidade Estadual de Santa Cruz

First Author: Francisco Martínez Luzardo, Ph.D.

Order of Authors: Francisco Martínez Luzardo, Ph.D.; Fermin G Velasco, PhD; Ives K Correia, MSc.; Patricia M Silva; Luiz C Salay, PhD

Abstract: A large amount of input of lead to the environment has resulted from several economical activities and has a significant impact on water resources. The reduction of lead contamination in water is an important issue for the environmental and human health. This study aimed to synthesize a tannin-formaldehyde resin with the inclusion of carbon nanotubes and coconut fibers, for removal of lead in water. The concentrations of Pb(II) were measured by Energy-Dispersive X-Ray Fluorescence (EDXRF) analysis. The physical and chemical characteristics and the kinetic and isotherms adsorption parameters are reported. The synthesized resin can achieve a capacity of Pb(II) adsorption higher than 13.8 mg g<sup>-1</sup>, showing a good alternative for its future use in the treatment of water containing toxic metals in trace concentrations.

Download English Version:

<https://daneshyari.com/en/article/5749646>

Download Persian Version:

<https://daneshyari.com/article/5749646>

[Daneshyari.com](https://daneshyari.com)