

A novel method of removal of toxic lead ion from the drinking water using medicinal valued bio-adsorbents in dip-tea-bag as point-of-use application

Kathirvel Asokan and Sarangapani Muniraj*

Department of Chemistry, Ramakrishna Mission Vivekananda College (Autonomous), Mylapore, Chennai-600 004, India

E-mail: smuniraj@rkmvc.ac.in

Manuscript received online 27 September 2018, accepted 09 October 2018

Heavy metal pollution occurs in various water sources due to geo accumulation and bioaccumulation. The removal of heavy metal from water source particularly from drinking water is a challenging task and expensive. In the present study a low cost and point-of-use method is adopted by choosing medicinally valued bio-adsorbent taken in dip-tea-bag to remove lead from potable water and the concentration of lead ion was measured by using Atomic Absorption Spectrophotometer. All the experiments were conducted by taking bio-adsorbents in tea-bag and adsorption study was conducted lead ion spiked real sample (TDS around 200 ppm and pH around 7.0).

Keywords: Bio-adsorbent, drinking water, lead ion removal, dip-tea-bag.