

ABSTRACT

In this research the reduction of chromium heavy metal content in metal coating waste has been carried out using water hyacinth (eichhornia crassipes). Decrease in chromium content is done by variations in gel-adsorbent mass, stirring time and soaking time. The reduction of chromium metal has been successfully carried out with a decrease in TDS value of 1,970 ppm in the mass variation of 100 gram adsorbent which was tested using a salinometer. The adsorbent that has been successfully used to reduce the levels of chromium metal, then the mixing time and immersion are varied with the aim of increasing the adsorption ability of gel-adsorbent. In this study, obtained the maximum value of decreased chromium levels after immersion for 5 days with a mass of 100 grams of adsorbent. This value corresponds to a reduction in TDS of 1,874 ppm and effectiveness of adsorption of 22.85%. The reduced value of chromium metal content is greater when compared to the variation of the mass of the adsorbent, but only soaking time is used for 1 day.

Keywords: Water hyacinth adsorbent, chromium metal, deterioration, salinometer.