ABSTRACT

THE EFFECT OF CONTACT TIME AND pH ON THE CADMIUM BIOSORPTION USING KEPOK BANANA PEEL WASTE USING THE ATOMIC ABSORPTION SPECTROPHOTOMETRY METHOD (Stirring Speed 250 rpm)

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Water is one of the basic needs for living things on earth. Water pollution is a global crisis that can affect human health and increasingly harm the earth. Heavy metal concentrations in wastewater also reach excessive levels of toxicity for aquatic life. Thus, this research was carried out by utilizing Kepok banana peel waste to adsorb the heavy metal cadmium (Cd). This research aims to determine the highest % adsorption in the adsorption of the heavy metal cadmium (Cd) using kepok banana peel as an adsorbent based on variations in contact time and pH.

In this study, variations in contact time (30 and 60 minutes) and pH (4, 5, 6, 7 and 8) were used. The data taken is the initial and final concentration of the metal in the sample which has been analyzed by the Atomic Absorption Spectrophotometer (AAS), which is then calculated by calculating the percent adsorption. The highest percentage of adsorption obtained in this study was at a contact time of 30 minutes at pH 8 with a % Adsorption of 89.58% and a contact time of 60 minutes at pH 8 with a % Adsorption of 93.55% and the Spearman Correlation statistical test data was obtained which There is a significant effect of pH time variation treatment on % Adsorption and the effect of variation in contact time between 30 minutes and 60 minutes on % Adsorption which shows that there is no significant effect on % Adsorption, so it can be concluded that contact time is 30 minutes and pH 8 as parameters contact time and optimum pH.

Key word : Kepok Banana Peel, Cadmium (Cd), Adsorption, Contact Time, pH