

## **ABSTRACT**

### **UTILIZATION OF KEPOK BANANA PEEL BIOSORBENT IN CADMIUM (Cd) ADSORPTION WITH VARIATIONS IN CONTACT TIME AND pH (Stirring Speed 300 rpm)**

**AYU KIKI FERDILA**

Water is one of the basic necessities of life for all living creatures. The increase in the industrial sector and population has resulted in increased waste disposal, thereby causing water pollution. One of the dangerous populations for living things contained in wastewater is heavy metals because they are toxic and cannot be decomposed by biological means. Thus, this research was carried out by utilizing Kepok banana peel waste to adsorb the heavy metal cadmium (Cd). The aim of this research was to determine the highest % Adsorption in Cd metal adsorption using Kepok banana peel adsorbent based on variations in pH and contact time, using a stirring speed of 300 rpm.

In this study, the pH variations used were 4, 5, 6, 7, 8 and contact time variations of 30 and 60 minutes. The data used is the concentration of Cd metal before and after the adsorption process which was analyzed using an Atomic Absorption Spectrophotometer (AAS) which was then calculated using the % Adsorption formula. The highest percentage of adsorption obtained was at pH 8 at both 30 and 60 minutes of contact time with an average % of adsorption of 84,33% and 91,59% respectively. *Spearman* correlation statistical testing was carried out and the results obtained were that there was a significant relationship between contact time and % Adsorption and between pH and % Adsorption at contact times of 30 and 60 minutes.

Key words : Adsorption, Kepok banana peel, cadmium (Cd), pH, contact time.