

## **ABSTRACT**

### **THE EFFECT OF CONTACT TIME ON ADSORPTION**

#### **METYLENE ORANGE USING BANANA PEEL**

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Methylene orange is commonly used in the food and textile industries. Methylene orange waste that is not treated properly will pollute the environment. Therefore an effective method used to reduce water pollution caused by dye waste is the adsorption method. Contact time is one of the important parameters in the adsorption process. The purpose of this study was to determine the effect of contact time on the adsorption of methylene orange using banana peel as an adsorbent. In this study, the adsorption process for methylene orange dye used banana peels activated by 0.15 M HCl as adsorbent with variations in contact times of 30, 60, 90, 120, and 150 minutes. The analysis was based on measuring the absorbance of the methylene orange solution using a UV-Vis spectrophotometer at a wavelength of 465 nm. The data obtained from the absorbance of methylene orange solution with variations in contact time obtained optimal conditions at a contact time of 150 minutes, the adsorption capacity obtained was 3,438 mg/g. Variations in contact time have an effect on good adsorption by the adsorbent.

Keywords: Raja nangka banana peel, methylene orange, adsorption