

UTILIZATION OF ACTIVE CARBON FROM BANANA PEEL WASTE AS A SOLUTION FOR MANAGING USED COOKING OIL AT PRIBADI BANDUNG SCHOOL

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ABSTRACT

Banana peel waste is one of the wastes that significantly contributes to environmental pollution. As is well known, people consume a lot of bananas due to their rich nutritional content such as potassium, magnesium, phosphorus, iron, and calcium. However, the fact is that the majority of people tend to throw away banana peels after consuming the fruit, and the lack of utilization of banana peel waste leads to waste accumulation. On the other hand, the people of Jabodetabek use an average of ± 1 liter of cooking oil per week, and there has not yet been proper management of this oil waste, which significantly contributes to environmental pollution. Therefore, the objective of this research is to utilize banana peel waste into activated carbon as a solution to tackle used cooking oil at Sekolah Pribadi Bandung. The method in this research is experimental, and the data obtained in this study consists of quantitative data on moisture content, ash content, carbon value, and free fatty acid content. The results of this study indicate that banana peel waste can be reprocessed into activated carbon that is quite effective in purifying used cooking oil based on moisture content, ash content, and free fatty acid (FFA) value. Activated carbon from banana peel waste has generally met the standard values for activated carbon based on moisture content (11.88%), ash content (10%), and free fatty acid characterization test results (0.2%).