ADSORPTION OF LEAD ON DURIAN LEAVES TREATED WITH SODIUM HYDROXIDE

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ABSTRACT

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The high content of lead in the wastewater become one of the major problem to the industry because it will contaminate the environment and the ecosystem. The ability of durian leaves treated with sodium hydroxide to remove Pb(II) ion was investigated in this study. The CTDL was characterized by using pH_{slurry}, pH_{zpc} and FTIR. The parameters of this study are pH, adsorbent dosage, and contact time. The absorbance of each parameter was analysed using Atomic Adsorption Spectrometer (AAS). The studies was conducted at pH 4, 0.04 g of CTDL, temperature of 30 °C for 90 minutes with 120 rpm. Kinetic data were analyzed by using two adsorption kinetic model which are pseudo-first-order and pseudo-second-order. The data shows high correlation coefficient on pseudo-second-order compared to pseudo-first-order with R^2 value is in between 0.997 to 0.999. The results of this study suggest that durian leaves has potential as a low cost and effective adsorbent to remove Pb(II) ion from waste water.

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