

Treatment of landfill leachate in Kayu Madang, Sabah : Textural and physical characterization (Part 1)

ABSTRACT

Activated carbons from two agro-industrial wastes; oil palm shells (OPS) and coconut husk (CH); were prepared by chemical activation using potassium hydroxide as the dehydrating agent. A twostage process was used; with semi-carbonization stage at 200o C for 15 minutes as the first stage followed by an activation stage at 500o C for 45 minutes as the second stage. The precursor material with the impregnation agent was exposed straightaway to semi-carbonization and activation temperature unlike the specific temperature progression as reported in the literature. All experiments were conducted in a laboratory scale muffle furnace under static conditions in a self generated atmosphere. We found that by using this method, the OPS prepared with the KOH impregnation ratio of 25% had the highest Iodine Number which was 466.1mg/g but CH with the similar impregnation ratio had the highest Methylene Blue adsorption capacity and percentage of yield, which were 10.9mg/g and 74.68% respectively.