

ABSTRACT

Sasirangan is a local textile industry commodity typical of South Kalimantan. The traditional fabric-making process involves chemicals in its production. Sasirangan liquid waste contains pollutants that do not meet the requirements for disposal into the environment, including cadmium (Cd) contaminant. Adsorption process is an effective method to reduce the heavy metal concentration in liquid waste. This study aims to determine the potential of rice husk activated carbon in adsorbing Cd from sasirangan liquid waste and to investigate the effect of stirring speed on the adsorption process. The rice husks that had been carbonized were then activated chemically and physically. Chemical activation process was carried out by adding chemical compound HCl which was immersed for 24 hours. Furthermore, it was physically activated in the furnace for 45 minutes at 450°C. The effect of stirring speed on the adsorption process was analyzed. The higher the stirring speed, the higher the decrease of Cd content. This is due to better performance in the adsorption process of Cd to adsorbent. The maximum reduction of Cd concentration was observed in adsorption at stirring speed 90 rpm by carbon that had been activated, where the remaining Cd level 0.018 mg / L.

Keywords : sasirangan liquid waste, rice husk, activated carbon, adsorption, Cd metal