

Characterization of rambutan seed (*Nephelium lappaceum*) as natural adsorbent for wastewater treatment

Abstract

Activated carbons were prepared from rambutan seed with impregnation of zinc chloride as dehydrating agent. In order to find its characteristics, different zinc chloride to rambutan seed ration (0.5 and 2) and activation temperature (450 and 650 °C) was employed. The carbonization occurred in a tube furnace with flow of nitrogen gas at 0.5 L/min. The results showed that at higher impregnation ratio and carbonization temperature produced a wider BET surface area of activated carbon that was 9.8761 m²/g. Total pore volume also increased with increases of these two factors. However activation yield was decreased with increasing of carbonization temperature.

Keywords

Activated carbon; Activation temperature; Adsorbent; Impregnation ratio; Wastewater treatment