

ABSTRACT

Disposal of a growing amount of boiler ash from palm industries creates environmental problems. Previous studies have been carried out on natural and rest-product materials but it was mostly comparative, trying to find out which of them adsorbs best. Ash is known to remove metal ion from water. In this study, batch experiments are conducted with boiler ash from palm industries to find out if it could be use to adsorption of cation Pb^{2+}

This experiment has a purpose to identify chemical content like SiO_2 , Al_2O_3 , CaO , and other inorganic oxide and the characteristic of palm ash as adsorbent. Chemical content of boiler ash were determined by using XRF (X-Ray Fluorescence) and to identified characteristic of boiler ash as adsorbent. Adsorption measure was applied by varying grain size, pH, contact time, temperature and mixing rate. The result of experiment showed that boiler ash from palm industries could adsorp Pb. The best adsorption was happened at grain size 300 mesh, pH 5, the contact time was 30 minutes, temperature $40^{\circ}C$, the mixing rate 150 rpm.

Keyword : Boiler ash from palm industries, adsorption, cemical content, Pb