World Academy of Science, Engineering and Technology
International Journal of Chemical and Materials Engineering
Vol:8, No:10, 2014

Comparison Study on Characterization of Various Fly Ashes for Heavy Metal Adsorption

Authors : E. Moroydor Derun, N. Tugrul, N. Baran Acarali, A. S. Kipcak, S. Piskin

Abstract : Fly ash is a waste material of coal firing thermal plants that is released from thermal power plants. It was defined as very fine particles that are drifted upward which are taken up by the flue gases. The emerging amount of fly ash in the world is approximately 600 million tons per year. In our country, it is expected that will be occurred 50 million tons of waste ash per year until 2020. The fly ashes can be evaluated by using as adsorbent material. The purpose of this study is to investigate the possibility of use of various fly ashes (Tuncbilek, Catalagzi, Orhaneli) like low-cost adsorbents for heavy metal adsorption. First of all, fly ashes were characterized. For this purpose; analyses such as XRD, XRF, SEM and FT-IR were performed.

Keywords : adsorbent, fly ash, heavy metal, waste
Conference Title : ICCEE 2014 : International Conference on Chemical and Environmental Engineering
Conference Location : Barcelona, Spain
Conference Dates : October 27-28, 2014