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### Synthesis Mg/Al LDH employed wastewater of acid activation of palygorskite clay

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Fuller's earth activated, which is acid-treated bentonite or palygorskite clay, is important material for decolorization in oil and other chemical industries. Palygorskite clay is the major raw material for the production of fuller's earth in China. Wastewater of acid activation of palygorskite clay has caused of serious environmental pollution during the production of fuller's earth activated. Utilization of the wastewater through synthesis of layer double hydroxide (LDH) provides an efficiency approach for environmental problem of production of fuller's earth activated while obtaining LDH products. The microstructure of synthesized LDH from the wastewater is characterized by TEM and XRD, and mechanism of formation and potential applications are also discussed, properties adsorbing  $\text{CrO}_4^{2-}$  and  $\text{PO}_4^{3-}$  of synthesis LDH employed the acidic wastewater calcined before or after were researched. The results indicate that the capabilities adsorbing  $\text{CrO}_4^{2-}$  and  $\text{PO}_4^{3-}$  by the synthesis LDH calcined after increase comparing to calcined before; Capabilities adsorbing  $\text{PO}_4^{3-}$  are more than  $\text{CrO}_4^{2-}$ ; Capabilities adsorbing  $\text{CrO}_4^{2-}$  and  $\text{PO}_4^{3-}$  are near merchandise LDH. Isothermal curves of adsorption for  $\text{CrO}_4^{2-}$  and  $\text{PO}_4^{3-}$  on the LDH accord with Freundlich Equation. Parameters of Freundlich Equation adsorption for  $\text{CrO}_4^{2-}$  are  $1/n$  0.53 and 0.28,  $\log K$  0.36 and 1.07 calcined before and after, respectively, and for  $\text{PO}_4^{3-}$   $1/n$  0.54 and 0.92,  $\log K$  1.21 and 1.61 calcined before and after, respectively. This research is supported by NNSF of China (40072017)

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## 4.62.P18

### Evaluation of criteria on solid waste disposal site selection in coastal cities of Eastern Black Sea, Turkey

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Soil, water and air pollution originated from solid wastes is one of the most significant environmental problems in coastal cities of Eastern Black Sea because about 600 ton waste has been disposed to Black Sea. The methods such as composting, burning are not suitable for solid wastes, disposal of solid wastes to land is inevitable component of solid waste management system in the region. However, site selection is the most important stage of sanitary landfilling. Criteria affected site selection are public health and safety (geology, hydrogeology, hydrology, traffic safety), natural environment (agricultural and biological environment), social environment (noise, visual impact, population impact, land use compatibility), cultural environment (heritage and archeology) and coasts (volumetric capacity and engineering works).

To determine the weight percent of these criteria on site selection for the region, a questionnaire was done to three different engineering groups and used statistical analysis on result of the questionnaire. In order to average weight of three different engineering groups, univariate analysis of variance was applied. As a result of this analysis, average weight of these engineering groups can be represent the weight of solid waste disposal site selection criteria of Black Sea Region.

Result of the questionnaire; weight of public health and safety on waste disposal site selection is 30 %, that of social environment and costs is 22 %, that of natural environment is 18 % and that of cultural environment is 8 %.

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