

Acid activation of Attapulgites from different sources with HCl: A study of physico-chemical, surface and textural properties

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Attapulgites from French and Chinese origins were treated with 1.0, 3.0, 5.0 and 7N solutions of HCl for 6 hours under reflux at 80°C. The solids obtained were characterized by FTIR, TGA, XRD, SEM-EDX and N₂ adsorption-desorption isotherm at 77K. The acid treatments substantially affect the octahedral cations—Mg, Al and its removal in both attapulgites along with the increase in specific surface area was observed in strong treatments but no creation of microporosity was observed in these clays. The difference in thermal behavior could be envisaged to the chemical compositions of these clays.