

Characterization Of Synthesised Layered Double Hydroxides Materials

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Abstract : In this study, layered double hydroxides are synthesised by co-precipitation and reconstruction method. Layered double hydroxides were characterized by X-ray diffraction, Fourier transform infrared spectroscopy, surface measurement by Brunauer, Emmett and Teller method, and determination of point zero charge pH. Calcined layered double hydroxide are obtained by thermal treatment. The removal of water and carbonate during calcination lead to the formation of channels and pores which increased its specific surface area. The X-ray pattern of calcined LDH show that the structure was destroyed and converted to an amorphous material after calcination and can be reconstructed by simple contact with anionic solution. The point zero charge pH value of these solids confirm that these materials are a good candidate for adsorption and catalysis applications.

Keywords : co-precipitation, layered double hydroxides, calcination, characterization