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Experimental Studies on Surface Morphology of Nano clay and Mg-Al Layered Double Hydroxide Using Atomic Force Microscopy and EDAX Analysis

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Abstract: Nano-sized particulate materials are finding increase in applications for Engineering and Medical Sciences. In this paper study the two containing Nano- powders, i.e., Nanoclay (Cloisite 30B) and Layered Double Hydro-oxide (LDH) composed of Aluminium-Magnesium was considered for determining their morphological behaviour. Atomic Force Microscopy (AFM) was used to find the roughness of the Nano-particulates. EDAX was used to ascertain the actual composition of the selected Nano-powders. The findings from AFM test were indicated in the result and discussion. It was found that the Nano clay had smooth surface for the same particle size than the LDH. Hence nanoclay can be opted for applications such as powder coatings over metal surface for flame retardant properties.

Keywords : Nano clay (Closite 30B), LDH (Mg-Al), EDAX., AFM (Atomic Force Microscope).