

THE PILLARING OF NATURAL TUNISIAN CLAYS FROM JEBEL NAHLI FOR EVENTUAL INDUSTRIAL APPLICATIONS

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Abstract : The different properties developed by the clays such as; their capacities of exchanges cationic and their properties of surface were showed by several works. These properties confer to the clay important adsorption properties. They can acquire other properties by various modifications which can be through chemical, physical and/or thermal view. These new properties may open the ways of unsuspected applications: adsorption and catalysis.

In this work, we have studied the pillaring of the upper Cretaceous natural Tunisian clays taken from Jebel Nahli with polyhydroxymetallic precursor $[Al_{13}O_4(OH)_{24}(H_2O)_{12}]^{7+}$. Several techniques are used, in this study: XRD, infra red spectroscopy, thermogravimetric analysis, textural measures and scanning electron microscopy. The results show that the pillaring of smectitic clays with Aluminum oxides polycations has allowed obtaining microporous materials, rigid, with a large interlayer spacing and a high thermal stability.

Keywords: Natural clays, microporous materials, Pillared clays, Thermal stability, Tunisia