

## SUMMARY

Studies have been made on the behaviour of a kaolinite from Bang Rin, Ranong with respect to two main aspects : cation exchange capacity (CEC) and intercalation complex formation.

The variation of the cation exchange capacity (CEC) of a kaolinite with the nature of the exchanging cation, and pH has been studied. Cation exchange properties of kaolins originate largely from isomorphous substitution and pH-dependent surface charges but the exchange reaction was complicated by the presence of impurities on the clay surfaces and the tendency of kaolins to form intercalation complexes. The CEC for kaolinite is less than 10 mmol/100 g and apparently increases with increasing pH.

The formation of intercalation complexes of kaolinite was studied using X-ray diffraction and IR spectroscopic techniques. Only qualitative information has been obtained. Results indicate the importance of hydrogen bonding in the intercalation process. Several organic reagents and inorganic salts are able to penetrate into the interlayer space of kaolinite, thus forming intercalation compounds, with varying rates and completeness. A number of acids and a base which are known to dissolve clay minerals have been found to be able to intercalate into kaolinite as well as destroying the structure.

## BIOGRAPHY

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