
Phase Transitions in Complexes of Nontronite with *n*-Alkanols

G. Pfirrmann, G. Lagaly* and Armin Weiss

Institut für Anorganische Chemie der Universität München 2, Meiserstr. 1, Germany

* Reprints from G. Lagaly

Abstract: The basal spacings of long chain *n*-alkanol complexes of nontronite saturated with Li⁺, K⁺, Mg²⁺, Ca²⁺, Sr²⁺ and Ba²⁺ were measured for temperatures increasing from -70° C up to 130° C. With rising temperatures the complexes rearrange from a low temperature form into a high temperature form.

In the low temperature form the alkyl chains of the alkanol molecules form bilayers with their chain axes perpendicular to the silicate layers. The chains may not be in all cases in the planar all trans conformation but in special 'kink'-conformations.

The transition into the high temperature form is explained by cooperative transition from a form with a low number of 'jogs' to one with a high number of 'jogs' and 'kinks'.

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