The Influence of Heat-Stable Intercalate on the Rate of Dehydroxylation of Smectite[1]

R. H. Loeppert Jr. and M. M. Mortland

Department of Crop and Soil Science, Michigan State University East Lansing, Michigan 48824

[1] Journal article No. 8890, Michigan State Experiment Station. Work partially supported by National Science Foundation Grant CHE-76-80370.

Abstract: The rates of dehydroxylation of smectites intercalated with the decomposition products of $Ni(phen)_3SO_4$ are from 2 to 4 times greater than those of clays without the heat-stable intercalate. These results suggest that the intercalated material, in keeping the clay sheets separated, provides a more ready avenue for water loss during the dehydroxylation process.

Key Words: Activation energy • Dehydroxylation • Intercalate • Reaction rate constant • Smectite

Clays and Clay Minerals; October 1979 v. 27; no. 5; p. 373-376; DOI: 10.1346/CCMN.1979.0270508