



Mineralogy of Talc Deposit from Agoundis (High Atlas, Morocco) with a View to its Industrial Use

A. Dekayir (1), M. Amouric (2), M. Nciri (3), and J. Olives (2)

(1) Lab. Ingénierie Géologique, Fac. Sciences, Zitoune, Meknes, Maroc (dekayir@yahoo.fr), (2) CINaM-CNRS, Marseille, France, (3) UFR SMI, Fac. Sciences, Zitoune, Meknes, Maroc

Talc deposit from Agoundis (Morocco) is a stratiform deposit in which talc appears as a succession of layers with variable but low thickness, located in massive dolomites at the upper part of the Adoudounien. Talc is supposed to be formed from a major alteration of dolomites. The mineralogical study by X-ray diffraction, infrared and Mössbauer spectroscopies, and scanning as high resolution transmission electron microscopies of selected samples demonstrates that this considered pure deposit is, in fact, made up of a mixture of talc, chlorite, smectite and interstratified C/S and I/S, accompanied with calcite, dolomite and quartz. In particular, the Mössbauer analysis shows that iron is mainly present in Fe²⁺ form (93% of total Fe). This proves that the Agoundis talc deposit formation and its argillaceous minerals result from hydrothermal water-rock interactions. The studied talc material being characterized as a mixture of several phases, industrial applications such as painting, paper and polymer factories are expected for it.