

Critical evaluation of the revised akdalaite model for ferrihydrite—Discussion

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ABSTRACT

Hydromaghemite and ferrimagnetic ferrihydrite are two terms that designate the same phase, which exhibits strong ferrimagnetism and >3% water loss between 110 and 350 °C. Its X-ray diffraction patterns, both in the real and reciprocal space, are consistent with the structural model of ferrihydrite of Michel et al. (2010), which includes tetrahedrally coordinated iron. This phase can be readily produced via transformation of 2-line ferrihydrite in strictly aerobic conditions without the intermediate formation of magnetite, and where additives act, with different efficiency, as sorbents retarding the fast transformation, via aggregation, into hematite.

Keywords: Hydromaghemite, ordered ferrihydrite, ferrimagnetic ferrihydrite