

Accepted Manuscript

Title: Interactions between kaolinite clay and AOT

Authors: A. Suzzoni, L. Barre, E. Kohler, P. Levitz, L.J. Michot, J. M'Hamdi

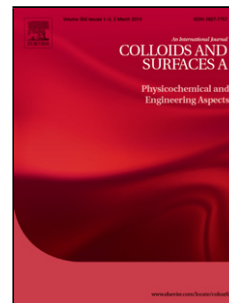
PII: S0927-7757(18)30658-7
DOI: <https://doi.org/10.1016/j.colsurfa.2018.07.049>
Reference: COLSUA 22704

To appear in: *Colloids and Surfaces A: Physicochem. Eng. Aspects*

Received date: 25-5-2018
Revised date: 26-7-2018
Accepted date: 28-7-2018

Please cite this article as: Suzzoni A, L. B, E. K, P. L, L.J. M, J. M, Interactions between kaolinite clay and AOT, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* (2018), <https://doi.org/10.1016/j.colsurfa.2018.07.049>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Interactions between kaolinite clay and AOT

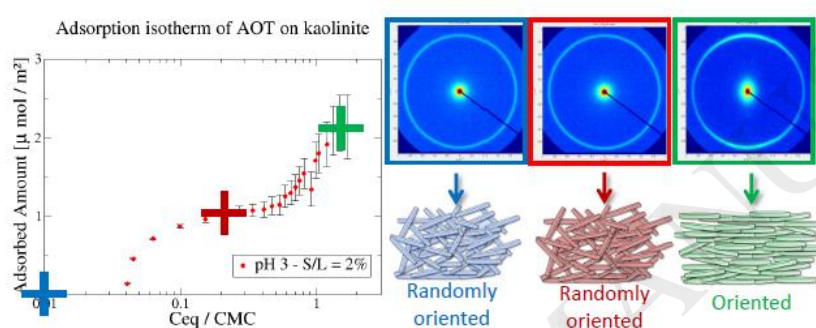
A. SUZZONI^{a,b*}, L. BARRE^a, E. KOHLER^a, P. LEVITZ^b, L.J. MICHOT^b, J. M'HAMDI^a

^a IFP Energies nouvelles, 1 et 4 avenue du Bois-Préau, 92852, Reuil Malmaison, FRANCE

^b Laboratoire Physicochimie des Electrolytes et Nanosystèmes interfaciaux (PHENIX), UMR 8234, Université Pierre et Marie Curie, 75005 Paris, FRANCE

© 2014 xxxxxxxx. Hosting by Elsevier B.V. All rights reserved.

Graphical abstract



ARTICLE INFO

Article history: Received 00 December 00 Received in revised form 00 January 00 Accepted 00 February 00

ABSTRACT

Interactions between kaolinite (KGa-2) and a typical anionic surfactant bis(2-ethylhexyl) sulfosuccinate sodium (AOT) have been study to obtain a better knowledge of this system. Firstly, adsorption isotherms of AOT on kaolinite are realized as a function of pH. Stability experiments have been performed between the surfactant and the clay mineral and the bed sediments structure have been studied with Small Angle X-ray Scattering (SAXS). In acidic media, the shape of the adsorption isotherm leads to the following suggestions: firstly, for surfactant concentration below the CMC a surfactant monolayer is adsorbed on the positively charged edge surfaces, and then, for surfactant concentrations above the CMC, a bilayer is adsorbed on the edge surfaces. Consequently, in the first case, the surface becomes hydrophobic and in the second case, the surface becomes hydrophilic and this assumption is verified with hydrophobicity tests. Under alkaline conditions no surfactant is adsorbed on surfaces confirming the adsorption on the edge surfaces in acidic conditions. In agreement, with previous studies [1,2] significant stabilization of kaolinite suspensions can be observed in the presence of high surfactant concentration, in both pH conditions. Finally, structural studies by SAXS provide data about the organization of particles in the bed sedimentation.

Keywords:

Kaolinite Bis(2-ethylhexyl) sulfosuccinate sodium AOT Adsorption Stabilization Orientation

Download English Version:

<https://daneshyari.com/en/article/11003128>

Download Persian Version:

<https://daneshyari.com/article/11003128>

[Daneshyari.com](https://daneshyari.com)