

## Accepted Manuscript

Title: Role of Al(III) and Cr(III) on the formation and oxidation of the Fe(II-III) hydroxysulfate Green Rust

Authors: Ph. Refait, R. Sabot, M. Jeannin

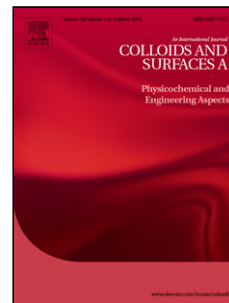
PII: S0927-7757(17)30761-6  
DOI: <http://dx.doi.org/doi:10.1016/j.colsurfa.2017.08.006>  
Reference: COLSUA 21868

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

Received date: 16-5-2017  
Revised date: 10-7-2017  
Accepted date: 8-8-2017

Please cite this article as: Ph.Refait, R.Sabot, M.Jeannin, Role of Al(III) and Cr(III) on the formation and oxidation of the Fe(II-III) hydroxysulfate Green Rust, Colloids and Surfaces A: Physicochemical and Engineering Aspects <http://dx.doi.org/10.1016/j.colsurfa.2017.08.006>

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.



# Role of Al(III) and Cr(III) on the formation and oxidation of the Fe(II-III) hydroxysulfate Green Rust

Ph. Refait<sup>1,\*</sup>, R. Sabot<sup>1</sup> and M. Jeannin<sup>1</sup>

(1) *Laboratoire des Sciences de l'Ingénieur pour l'Environnement (LaSIE),*

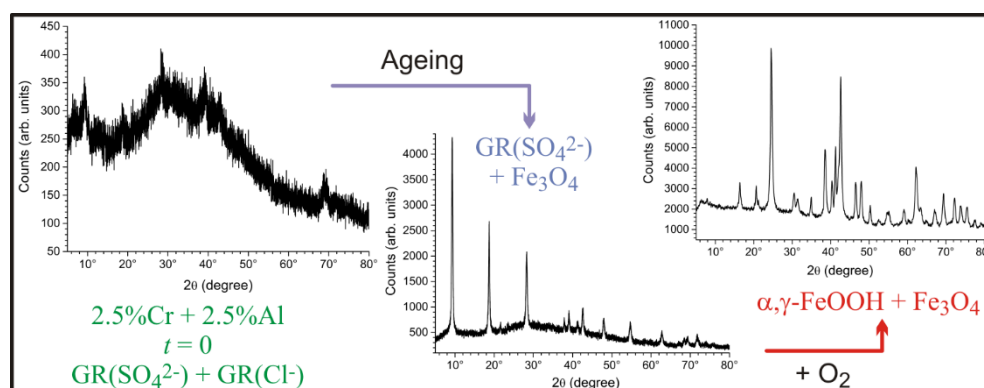
*UMR CNRS 7356, Université de La Rochelle, Bât. Marie Curie, Av. Michel Crépeau,*

*17042 La Rochelle cedex 01, France.*

\* Corresponding author:

Tel.: (33) 5 46 45 82 27 / Fax: (33) 5 46 45 82 41 / E-mail address: [prefait@univ-lr.fr](mailto:prefait@univ-lr.fr)

## Graphical abstract



**Abstract.** Aqueous  $\text{GR}(\text{SO}_4^{2-})$  suspensions were prepared by mixing Fe(II) - Fe(III) based solutions with NaOH solutions in the presence of both  $\text{Cl}^-$  and  $\text{SO}_4^{2-}$  ions. So as to study the effects of Al(III) and Cr(III) on the formation and oxidation of  $\text{GR}(\text{SO}_4^{2-})$ , 5 at.% of Fe were replaced by Cr(III), Al(III) or Cr(III)+Al(III). The presence of Al(III) and Cr(III) during the precipitation process induced a decrease of crystallinity of the obtained solid phase. One week of ageing in suspension at room temperature led in any case to a significant increase of crystallinity of  $\text{GR}(\text{SO}_4^{2-})$  but Al(III) and Cr(III) induced the formation of a small amount of

Download English Version:

<https://daneshyari.com/en/article/4981731>

Download Persian Version:

<https://daneshyari.com/article/4981731>

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