

PART 1:**SDI Review Form 1.6**

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	MS: 2013_IRJPAC_3555
Title of the Manuscript:	Adsorption Characteristics of Sodium oleate onto Calcite.

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<u>Compulsory</u> REVISION comments	This paper presents adsorption studies of sodium oleate onto calcite under different conditions of pH, temperature and contact time. The subject is particularly important to mineral technology, since calcite is one of the most common gangue mineral present in phosphate rocks and its surface chemical properties complicate the selectivity of concentration by froth flotation, due to the similarity with phosphates. After the revision I concluded that the results deserve to be published, however the content of the paper still need several improvements. The introduction must be better with literature revision about adsorption mechanisms of surfactants onto calcite surface. The mineralogy revision is profound and needless. The methodology should be better in the experiments description. Some aspects are missing in the text. The sodium oleate concentrations must be patterned. The authors should use molar concentrations. Several references and citations are not directly related to the manuscript. In my opinion, the text must be improved in the discussions, connecting the literature results and what are the contributions of the present results. In froth flotation and surface chemistry literatures there are many studies about adsorption mechanisms of sodium oleate onto calcite, and these studies were not reported. The pH of experiments in the figure 1, 2 and 4 are not reported. This is very important to the discussion of adsorption mechanism.	The mechanism of adsorption of Na-oleate onto calcite were determined at various contact time, pH, temperature. The introduction, experimental, result and discussion of this paper have been edited as suggested by the reviewers.



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	In the figure 2, why the results of 80 minutes doesn't appear? If the authors confirm the chemisorption and affirm that Ca-oleate remains onto calcite surface, how to explain the desorption beyond 80 minutes? I think that Ca-oleate species can be released to the solution. According to literature data of calcite zeta potential, below pH 8 – 9 calcite has positive surface charge, and electrostatic adsorption of sodium oleate is possible, contributing to the high adsorption values. The equations 4-7 doesn't explain the sodium oleate beyond cmc.	Fig.2 has been corrected in this paper. The high adsorption values have been reported at pH 4 and 6 on the Effect of pH on adsorption of oleate onto calcite. The equations 4- 7 explains the solubility of both calcite and Na- oleate in aqueous solution.
<u>Minor</u> REVISION comments	Line 26: the word "mechanism" is not reported in the abstract, so this is not a key word. The abstract should be improved according to the article modifies. Some references appear on References section, but these are not cited in the text. The conclusion should be improved according to the article modifies.	
<u>Optional/General</u> comments	The content of the paper still need several improvements. The manuscript should be improved in the results discussion and some additional experimental information (e.g. zeta potential) could contribute to the discussion about adsorption mechanism, improving the manuscript quality.	