



**SDI Review Form 1.6**

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| Journal Name:            | <a href="#">American Chemical Science Journal</a>                                                |
| Manuscript Number:       | 2013_ACSj_6575                                                                                   |
| Title of the Manuscript: | CURE CHARACTERISTICS AND RHEOLOGICAL PROPERTIES OF MODIFIED KAOLIN - NATURAL RUBBER VULCANIZATES |
| Type of the Article      |                                                                                                  |

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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



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**PART 1: Review Comments**

|                                     | <b>Reviewer's comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Author's comment</b> (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)                                                        |
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| <b>Compulsory</b> REVISION comments | <p><b>In abstract</b><br/>Torque minimum (ML), torque maximum (MH) which is correlated with hardness increased with increasing organoclay loading. The authors doesn't discussed the hardness of the composite, then how will the authors correlated maximum torque with hardness</p> <p><b>Introduction part</b> is poorly written. What is the objective of the work?</p> <p><b>Result and Discussion</b><br/><b>FTIR section</b><br/>Intercalation involves the rupture of some hydrogen bonds between the kaolinite layers and the formation of new hydrogen bonds (involving the inner hydroxyl groups) with inserting molecule.<br/>How the intercalation leads to the rupture of some hydrogen bonds and the formation of new hydrogen bonds?<br/>....the lamellae by causing an increase in the</p> | <p>Hardness (modulus) has been discussed in a previous study and might not be necessary in this present study.</p> <p>Objective stated.</p> <p>The polymer chains are then inserted between the individual silicate layers of the clay.</p> |



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|  | <p>dielectric constant when the compound penetrates between the layers of the kaolinite.....<br/>From the FTIR can we get the dielectric constant?<br/>Why the authors give this explanation?</p> <p><b>XRD</b> of modified and unmodified kaolin are looks like same except in the case of intensity. The d- spacing is not clear from the figure. Why the authors don't take the XRD the composite with different loading?</p> <p><b>Cure characteristics</b><br/>The cure characteristic of the modified NR vulcanizate is shown in figure 3. How the author determined the cure behavior? This part is not given the experimental section of the manuscript.</p> <p>How will, you explain the viscosity of the vulcanizate with the help of Einstein, Guth, and Gold equation !!!!!!!!!!!!!!!</p> <p><b>Rheological Properties</b><br/><b>Which method is used for the characterization of Rheological Studies.</b><br/><b>This section is also not given in the MS</b><br/>In the MS the storage modulus and loss modulus increase with loading of modified kaolin for RSO-Na modified natural rubber. But in figure 4, only 8 phr of filler is given. Wh</p> | <p>This is just for discussion purpose.</p> <p>Not exactly.</p> <p>See text.</p> <p>In the body of the MS.</p> |
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| <b><u>Minor</u></b> REVISION comments   |                                                                                                                                                                                                                                          |  |
| <b><u>Optional/General</u></b> comments | I have read the manuscript “Cure characteristics and rheological properties of modified kaolin - natural rubber vulcanizates” and now I would like to let you know that my opinion is negative because there is no novelty in this work. |  |