

Study of the Dielectric Behavior of Graphite Oxide Upon Exposure to Chlorine

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Graphite Oxide (GO) was synthesized using the Improved Hummer's Method. After the successful synthesis of GO, it was characterized and its dielectric properties were investigated. The change of dielectric behavior of GO upon exposure to chlorine gas (Cl_2) was studied. The obtained data were then analyzed to determine the mechanism by which the dielectric properties change. It was established that the gas physisorption is a two step process of which, one process has linear dependence with time while the other process modeled according to the Langmuir isotherm model. Finally the FT-IR spectra of the material before and after being exposed to Cl_2 gas were compared to understand the changes made to the material.