

Electrochemical Exfoliation of Pencil Graphite Core by Salt Electrolyte

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Abstract.

Exfoliation of pencil graphite core throughout electrolysis process is considered as one of the simple and friendly method to synthesis graphene from graphite. In this research, sodium sulphate (Na_2SO_4) was used as an electrolyte to investigate the effect on pencil graphite core with different grades for exfoliation process. Pencil graphite core was applied as both anode and cathode electrodes and exposed in 0.1 mol of Na_2SO_4 solution and followed with sonication in DMF solution. The morphology of exfoliated graphite was characterized by FESEM and TEM image. It was found that higher pencil grade produced more exfoliated powder as compared to lower grade pencil, and morphology investigation revealed that the exfoliated powder can produced graphene in nanoplatelet forms.