

Thermal Analysis of Poly(Sodium 4-Styrenesulfonate) Intercalated Graphite Oxide Composites

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The thermal stability of poly(sodium 4-styrenesulfonate) intercalated graphite oxide has been investigated using a differential scanning calorimeter. The poly(sodium 4-styrenesulfonate) intercalated graphite oxide composite shows a prominent exothermic reaction near 207°C and an endothermic reaction near 453°C. Graphite oxide is responsible for the exothermic reaction while the endothermic reaction is caused by the poly(sodium 4-styrenesulfonate) used in the synthesis of poly(sodium 4-styrenesulfonate) intercalated graphite oxide. The onset temperature of the exothermic reaction of poly(sodium 4-styrenesulfonate) intercalated graphite oxide decreased by 92°C in comparison with that of graphite oxide, indicating the addition of poly(sodium 4-styrenesulfonate) in the composite has diminished the thermal stability of graphite oxide.

Keywords: Thermal property of composite, Graphite oxide composites