



Immobilization of graphene oxide in a poly(divinylbenzene) matrix for the treatment of liquid radioactive waste containing ^{137}Cs

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Cesium is one of the fission products of major radiological concern, it is often found in nuclear radioactive waste generated at nuclear power plants. Several methods are used to treat radioactive aqueous waste, especially adsorption, which is a technique that combines cost and efficiency and is widely used in preconcentration of radionuclides. Graphene Oxide (GO) has attracted great attention due to its functionalized surface, which includes hydroxyl, epoxy, carbonyl and carboxyl groups, with great capacity of complexation of metal ions and it can be used as adsorbent to remove cesium from radioactive liquid wastes. This work, GO was immobilized in poly(divinylbenzene) to increase the specific mass and grain size of the adsorbent, that can be easily removed from solution by vacuum filtration or being used in a fixed bed column. The incorporation of the GO on the polymer surface was confirmed by electron scanning electron microscopy (SEM) Figure 1.

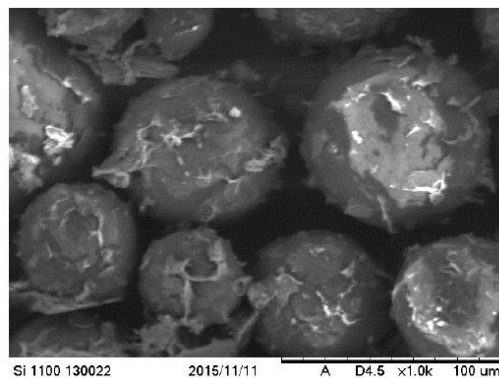


Figure 1. Image of GO on the polymer surface by SEM

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