

Simple preparation of polymer composite sorbent fibers for the removal of heavy metals

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Wastewater emitted from the mining and other industries come along with various toxic heavy metals which are highly toxic and lead to serious environmental problems. It is important to develop optimum methods to remove cadmium from wastewater in before is it is passed to the environments. Various methods for removing the heavy metals from wastewater include ion exchange, electrolysis, membrane process, chemical precipitation and sorption. As an economically and technically efficient method, sorption onto fibrous adsorbents has been suggested. In this work, we developed easy manufacturing method for preparation of heavy metal adsorbent fibers. As an example, polyvinyl chloride (PVC) and ionic polymer polyacrylic acid (PAA) composite fibers were successfully prepared by spinning the mixture of two polymers into water. The simply prepared composite fiber showed good sorption performance of cadmium which was used as a model heavy metal.