

عنوان مقاله:

Removal of methylene blue dye from wastewaters by absorption on to sIPN hydrogels composed of poly (Acrylamide-co-Acrylic acid) and poly vinyl alcohol

محل انتشار:

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خلاصه مقاله:

Dye removal from wastewater has received considerable attention with several classes of dye being investigated. Methylene blue (MB) has wide applications. It can cause some harmful effects in humans. The use of clean methods of low-priced and biodegradable absorbents could be a good tool to minimize the environmental impact caused by manufacturing and textile effluents. The present study deals with the preparation of a novel sIPN (semi interpenetrating) hydrogel composed of copolymer of Acryl amide and Acrylic acid with poly vinyl alcohol as linear polymer there in. The adsorption abilities of hydrogels with different molar ratios for removal of MB from aqueous solutions were investigated. A weighed quantity of dry hybrid hydrogel were immersed in 50 ppm MB solution and kept at 37°C. The amount of MB adsorbed was measured spectrophotometrically [Formula] in periodically taken solution samples. The maximum dye absorption concentration for hydrogel composites 95% interestingly, it wasn't observed any dye desorption of MB polymer solutions. Then the composites can be used as good membranes for removal of cationic dyes from aqueous solution while they won't release harmful materials in water.

کلمات کلیدی:

Hydrogel, Adsorption, Methylene Blue, Sipn

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