

## عنوان مقاله:

Chitosan from Shrimp as a Natural and Low cost Coagulant Aid for fine suspended and Colluidal solids in Karoon River

## محل انتشار:

کنفرانس بین المللی علوم، مهندسی و فناوری های محیط زیست (سال: 1394)

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## خلاصه مقاله:

Chitosan, a natural biopolymer, biodegradable, nontoxic, high molecular weight, linear cationic polymer was evaluated for its ability to be used as a coagulant to treat water for potable use. Chitosan is a biodegradable cationic polymer derived by de-acetylation of chitin. This study aims to investigate the effect of chitosan as a coagulant aids for improvement of poly aluminum chloride coagulant in removing the turbidities from drinking water. This study conducted in the laboratory using jar test device in water treatment of Ahvaz. Chitosan was tested as a natural coagulant in the removal of the turbidity of Karoon water to replace inorganic coagulants (PAC) having hazardous effects. Jar test was performed to test some factors that may affect the coagulation process. The factors tested were dose of coagulant (0-22mg/L), initial pH (5-9), type of coagulant chitosan versus PAC coagulants, and the chitosan solvent. Optimal pH for removing the turbidities was observed in pH=8. Optimal dosage of poly aluminum chloride together with chitosan was obtained 5 mg/L and 0.02 mg/L respectively. Under optimal conditions, using chitosan could reduce about 50% of concentration of polyaluminum chloride coagulant. When PAC concentration was 10mg/L, by adding 0.02mg/L of chitosan to the process, maximum turbidity removal was %99.16. Results indicate good performance of chitosan as a .coagulant aids for removing the turbidities from drinking water.

## کلمات کلیدی:

Ahvaz water treatment, Turbidity, Chitosan, Poly aluminum chloride

## لینک ثابت مقاله در پایگاه سیویلیکا:

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