

### Effect of clay and other anions in the removal of chromate from groundwater using MEUF

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Micellar-enhanced ultrafiltration (MEUF), a surfactant based membrane process for the removal of chromate from aqueous stream has been studied using a cationic surfactant CPC (cetylpyridinium chloride). In order to investigate the effect of clay particles and other anions (sulfate, nitrate and chloride) in the removal of chromate, the solution was processed by ultrafiltration using a membrane with pore size small enough to block the passage of the micelles and adsorb ions. Rejection of chromate was expressed as the function of molar ratio of surfactant to the pollutant at a fixed concentration of the clay and other anions. At low molar ratio of the surfactant to the pollutant in the presence of clay and other ions, low rejection of chromate was observed, but this effect was negligible at molar ratio 1:5 (chromate:CPC). At this ratio more than 95% of chromate and about 85% of surfactant rejection was observed. While considering the relative flux, a significant decrease was observed and this is due to the formation of secondary layer on the membrane surface with time of operation.