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SYNTHESIS AND APPLICATION OF POLYMER MEMBRANES , IN DEFLOURATION OF BRACKISH WATER

Abstract:

Million people in the Algerian south are exposed to an excessive fluorine concentration in water, the contamination comes from natural geological sources. The fluorine excess causes affections which starts from a benign dental fluorose to an invalidating osseous fluorose.

The strongly fluorinated water treatment becomes compulsory. The traditional techniques of treatment consist of the precipitation, coagulation flocculation and the exchanging ions resins (REI).

the studies which will be presented relate to a novel method of water defluorisation , It is thus proposed to use economic polymeric membranes containing polysulfone/PEG to eliminate fluorine present in water, then to carry out a dilution to obtain water quality intended for human consumption.

With an aim of eliminating fluorine excess in brackish water, we have synthesis membranes containing PSF/PEG/DMF (SOLVENT) with various concentrations, by the process of phase inversion , the results showed a complete elimination of fluorine for certain membranes and a partial elimination which respects the standards with other membranes.

Keywords:

Phase inversion, defluoration, membrane, additive PEG.