17th International Conference on Inorganic Membranes
New Frontiers for Inorganic Membranes
July 1 - 5, 2024
Oceania Convention Center - Florianópolis - Brasil

VALORIZATION OF NATURAL MATERIALS IN DEVELOPMENT OF NEW CERAMIC COMPOSITE MEMBRANES APPLICATION TO SALTS REJECTION AND ENVIRONMENTAL PROCESS

Saad Alami Younssi[a,b,*]
[a] Laboratory of Materials, Membranes and Environment, Faculty of Sciences and Technologies of Mohammedia, University of Hassan II- Casablanca, P.B 146, Mohammedia 20800; Morocco
[b] Ecole Normale Superieure of Casablanca, 50069, Casablanca, Morocco
[*] saad.alamiyounssi@fstm.ac.ma ; s.alamiyounssi@enscasa.ma

Abstract

In recent years, various methods have been developed for the treatment of pollutants in wastewater, including chemical precipitation, membrane filtration, adsorption, and dialysis/electrodialysis. Among these methods, ceramic microfiltration and ultrafiltration membranes made from natural materials such as phosphate and clays are particularly promising due to their abundance in Morocco [1-4].

Filtration tests of salt solutions, performed with different ultrafiltration ceramic membranes, show that salt rejection depends on the charge of the ions, pH, salt nature, and concentration. The rejection mechanism depends on the relative ratios of coulombic, dielectric, and hydration interactions between the material and the ionic species [1].

This presentation will focus on the development and characterization of microfiltration and ultrafiltration ceramic composite membranes and their application in removing salts and textile dyes from water.

References

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