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**Insights into the rejection of barium and strontium by nanofiltration membrane from  
experimental and modeling analysis**

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**Abstract**

A polyamide nanofiltration membrane (NF90) was systematically investigated for the rejection of barium and strontium ions from single salt solutions at a wide range of pH (2 – 10), pressure (5 – 30 bar) and composition (0.36 – 36.4 mM) to elucidate the underlying rejection mechanisms. Similar zeta potentials measured with both ions were explained by their similar diffusion coefficients. Point of zero charge for NF90 was always in the vicinity of 4. Modulus of volume charge density increased with increasing feed concentration and could be explained by Freundlich adsorption isotherm with competitive adsorption of barium or strontium vs. chloride

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