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Synthesis of proton Exchange membranes from a blend of copolymer Vinyl Acetate-Ester Acrylic and Natural Latex loaded with vanadium pentoxide

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Abstract : Proton exchange membranes were synthesized from vinyl acetate – acrylic ester and natural latex, and modified with different amount of vanadium pentoxide (V_2O_5). It was evaluated the membrane characteristics such as water uptake, ionic exchange capacity, oxidative stability and mechanicals properties, the membrane without loaded (0%) obtained the highest value of water uptake (91,2%). While, the addition of vanadium pentoxide improved the ionic exchange capacity from 0.23 to 0.722 meq/g, however, the physicochemical properties of the membrane decrease, accelerating the oxidative capacity of the same. In the FTIR analysis were found the different functional groups corresponding to each prepared membranes.

Keywords: Natural latex, vinyl acetate, water uptake, ionic Exchange, vanadium pentoxide.

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