

Extraction des colorants par membrane liquide émulsionnée et Application des plans d'expériences

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Abstract: Our work is based on the study of an extraction method for the treatment of water contaminated with cationic and anionic dyes (methylene blue, yellow99 acid and orange10 acid), using an emulsified liquid membrane. This method, which noted as a new separation technique, powerful booming and seems to open great prospects of technological achievements. An optimization of the different parameters which influence the stability of the membrane and the BM extraction was examined. We also used the test planning technique that is a design of experiments to achieve the method of extraction by emulsified liquid membrane giving better extraction efficiency. To conduct this study we used initially screened plan Plakett-Burman, made to select the most influential factors on the dye extraction yield of AY 99 AO 10 in an aqueous solution. These factors are then studied by the response surface methodology Box Benken. The extractants used are: HDEHP and l'aliquat336, SPAN 80 as surfactant, hexane and cyclohexane as solvent. The extraction yields obtained for the dyes (BM, AY99 and AO10) are respectively: 99.9%, 99.98% and 99.9% higher, using an internal solution of H₂SO₄.

Keywords : extraction, stabilité, membrane liquide émulsionnée, Colorants, plans d'expériences.