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Abstract: With increasing demands on the environment and on natural resources, there is a growing need to develop practical technologies that not only can remediate waste streams but also recover valuable components from these effluents. Membranes and membrane-based processes have attained technical and commercial importance with respect to their industrial and environmental applications. In the present paper, studies on stability of supported liquid membranes (SLMs) is reported. It has been shown that the method of preparation for SLM has an influence on the stability and lifetime of the SLM. Membranes prepared with 'dry' outer surfaces, free from organic wetting, were found to be more stable than the conventional SLM prepared with external surfaces wetted with a film of the organic membrane liquid phase. For phenol transport the 'dry' surface SLM had a similar initial flux to the 'wet' surface SLM, and about 2 times the flux after 50 h. Over a 50 h period the 'dry' SLM lost about 10% of its membrane liquid, whereas the 'wet' SLM lost about 45%. The difference is attributed to the loss of membrane liquid by emulsion formation at one of the aqueous-organic interfaces which would be greater for the 'wet' SLM with a continuous liquid film over the surface of the support.