Effect of Deep Eutectic Solvent Composition on the Corrosion Behavior of Electrodeposited Cadmium Coatings on Carbon Steel

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Deep eutectic solvents prepared by mixing choline chloride with urea or thiourea (1:2 molar ratio) were employed to evaluate their effects on the formation of cadmium electrodeposits on a reactive electrode composed of carbon steel 1018. The corrosion protection of carbon steel corresponds to the use of cadmium as a sacrificial anode. Differences in DES affect the electrochemical and corrosion behavior of cadmium.

Keywords: deep eutectic solvent; carbon steel; urea; thiourea; ethylene glycol.

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