Title: Effects Of Nicotiana Tobaccum Extract Additive On The Quality Of Electroplating Of Zinc On Mild Steel

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Abstract: Experimental investigations have been performed to determine the effects of nicotiana tobaccum (tobacco) extract additive on the electrode position of zinc on mild steel in acid chloride solution. The experiments were performed under different plating time, different additive concentrations and fixed pH conditions. Zinc electrode position on mild steel was performed using a DC – supply at defined operating parameters. The surface of the plated steel was examined using scanning electron microscopy (SEM); and Energy Dispersive Spectroscopy (EDS) for the surface elemental composition analysis. Different surface characteristics were obtained depending upon the concentration of the additive and the plating time. The corrosion resistance of the plated surface was also determined by a gravimetric method. The quality of the electro-deposition of zinc was good as indicated by the microstructural morphology of the plated surface except for the few porosities observed. The electrode position process was sensitive to the changes in the additive concentration and plating time. Any variation in the plating parameter produced an entirely new and different surface morphology.