

Evaluation of the Inhibitive Effect of Novel Quinoline Schiff Base on Corrosion of Mild Steel in HCl Solution

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Abstract : Schiff base (E)-2-methyl-N-(tetrazolo[1,5-a]quinolin-4-ylmethylene)aniline (QMA) was synthesized, and its inhibitive effect for mild steel in 1M HCl solution was investigated by weight loss measurement and electrochemical tests. From the weight loss measurements and electrochemical tests, it was observed that the inhibition efficiency increases with the increase in the Schiff base concentration and reaches a maximum at the optimum concentration. This is further confirmed by the decrease in corrosion rate. It is found that the system follows Langmuir adsorption isotherm.

Keywords : Schiff base, acid corrosion, electrochemical impedance spectroscopy, polarization

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