

## Study of the Inhibition Effect of Carbendazim Towards Carbon Steel Corrosion in 0.50M HCl Solutions

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The inhibition effect of carbendazim on the corrosion behavior of carbon steel in 0.50M HCl solution was investigated using weight loss, potentiostatic polarization and electrochemical impedance spectroscopy techniques. The inhibition efficiency increased as the concentration of the inhibitor was increased with a maximum achievable inhibition efficiency of almost 90 %. Electrochemical impedance spectroscopy technique was utilized to investigate the effect of temperature on corrosion inhibition and was found to be insignificant and thermodynamic parameters were calculated. The adsorption of the inhibitor on carbon steel surface obeys Langmuir adsorption isotherm.

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**Keywords:** Carbon steel; Carbendazim; corrosion inhibition; adsorption

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