

Corrosion Inhibition of Morus Rubra Leaf Extract on Mild Steel in Acidic Media

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Abstract—The inhibition effect of Morus rubra leaf extract on the corrosion of mild steel in acidic medium has been investigated by using Galvanostatic polarization, Electrochemical impedance spectroscopy and surface analysis by SEM(Scanning Electron Microscopy) and AFM(Atomic Force Microscopy). Corrosion inhibition efficiency increases with increase in plant extract concentration. The effect of temperature on corrosion behaviour of mild steel suggest that the inhibition is through adsorption. Scanning Electron Microscopic studies and Atomic Force Microscopic studies also investigate the change in surface morphology by using Inhibitor. The result obtained shows that plant extract plays a significant role in corrosion inhibition and serve as an effective inhibitors for the corrosion of mild steel in sulphuric acid medium. Electrochemical methods and surface morphology are widely used for the evaluation of the efficiency of corrosion inhibitors.

Keywords: Plant extract, Corrosion inhibitor, Galvanostatic Polarization, Electrochemical impedance spectroscopy, Scanning electron microscopy, Atomic force microscopy.