



Ziziphus Jujuba Leaves Extract as Green Corrosion Inhibitor for Mild Steel in 1N Hydrochloric Acid Medium

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ABSTRACT

The effect of Ziziphus Jujuba (ZJ) leaves extract on the corrosion inhibition of mild steel in 1N HCl solution was studied using chemical and electrochemical techniques. It was found from the results of weight loss method that the inhibition efficiency increased with increase in the ZJ extract up to 15 ppm. It indicates that 15 ppm is the optimum concentration to get maximum corrosion protection for mild steel in 1N HCl. The results obtained from the chemical and electrochemical measurements are in good agreement. Organic moieties present in the extract are found responsible for effective performance of inhibitor which was well supported by FTIR studies. The potentiodynamic polarization studies revealed that the ZJ extract acts as mixed type inhibitors. The surface characteristics of the inhibited and uninhibited mild steel were investigated by Scanning Electron Microscopic studies.

Keywords: Mild steel, Corrosion inhibitors, ZJ leaves extract, EIS, SEM.
