

عنوان مقاله:

Corrosion Inhibition of Mild Steel in Acidic Solution by Metoprolol Tablet as a Green Inhibitor

محل انتشار:

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خلاصه مقاله:

The inhibition effect of metoprolol tablet as corrosion inhibitor for mild steel in 1.0 mol L⁻¹ hydrochloric acid solution was investigated using potentiodynamic polarization and electrochemical impedance spectroscopy (EIS) techniques. The EIS. measurements showed that by addition of the inhibitor up to a certain concentration, the charge transfer resistance increases and the double layer capacitance decreases. potentiodynamic polarization curves indicated that corrosion current density decreased with increasing the inhibitor concentration. The results obtained from analysis of EIS data was in good agreement with those achieved by the polarization measurements The inhibition efficiency was found to increase with increasing inhibitor concentration up to a certain value. Polarization curves indicated that metoprolol tablet acts as a mixed type inhibitor. The adsorption of the inhibitor on the alloy surface in 1.0 M HCl followed the Langmuir isotherm

کلمات کلیدی:

Metoprolol tablet, Electrochemical impedance spectroscopy (EIS), Potentiodynamic polarization, Hydrochloric acid

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