



***Azadirachta Indica* (Neem) Extract as Green Inhibitor for  
Corrosion of Brass in Nitric Acid Media**

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**ABSTRACT**

*The inhibitive action of leaves extract of Azadirachta Indica (AI) on brass in nitric acid was studied using weight loss, effect of temperature, Polarization, Electrochemical Impedance Spectroscopic (EIS) and Scanning Electron Microscope (SEM) methods. Corrosion rate increases with the increase in acid concentration and temperature. As inhibitor concentration increases percentage of inhibition efficiency (I.E.) increases. The value of free energy of adsorption ( $\Delta G_{ads}^0$ ), heat of adsorption ( $Q_{ads}$ ), energy of activation ( $E_a$ ), enthalpy of adsorption ( $\Delta H_{ads}^0$ ) and entropy of adsorption ( $\Delta S_{ads}^0$ ) were calculated. The inhibition effect is discussed in view of AI molecules adsorbed on the metal surface and it obeys Langmuir adsorption isotherm. Polarization curve indicates that inhibitor act as mixed type and the I.E. was found up to 97.26%. Present study indicates that AI extract is a good inhibitor for the corrosion of brass in nitric acid medium.*

**Keywords:** Brass, Nitric acid, *Azadirachta Indica* (AI), Corrosion, Inhibitor.

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