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# **Electrochemical and morphological assessments of inhibition level of 8-hydroxylquinoline for AA2024-T4 alloy in 3.5% NaCl solution**

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Pages 207-223 | Received 20 Apr 2017, Accepted 29 Jun 2017, Published online: 18 Jul 2017

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## Abstract

The corrosion inhibition of AA2024-T4 in 3.5% NaCl solution by 8-hydroxyquinoline (8-HQ) was investigated by potentiodynamic polarisation (PDP), electrochemical impedance spectroscopy and dynamic electrochemical impedance spectroscopy. Experimental results were supported with scanning electron microscopy (SEM), atomic force microscopy and Fourier transform-infrared (FTIR) spectroscopy analysis. It was found that 8-HQ molecules adsorbed on the alloy surface and protected it against corrosion. SEM, energy dispersive spectroscopy, and FTIR results confirm the adsorption of 8-HQ molecules on AA2024-T4. The inhibition efficiency of 8-HQ is found to increase with increase in concentration and the highest concentration studied (0.05 M) offered corrosion inhibition efficiency of 84%. PDP results show that 8-HQ acts as mixed type inhibitor in the studied medium.

### Keywords:

- [AA2024-T4](#)
  - [corrosion](#)
  - [corrosion inhibition](#)
  - [8-hydroxyquinoline](#)
  - [electrochemical techniques](#)
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