

盐酸溶液中钢铁腐蚀的绿色缓蚀剂柠檬油精

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摘要:

The inhibition of steel corrosion in hydrochloric acid solutions by limonene, which was extracted from citrus and orange fruit, was studied using measurements of mass loss, electrochemical polarisation and electrochemical impedance spectroscopy (EIS) methods. Naturally, the substance reduced the rate of corrosion. The linearity of the cathodic curves for all concentrations indicated that the law of Tafel was followed. The effectiveness of inhibition increased with the increase in concentration of limonene and this exceeded 72% at 0.220 g·L⁻¹. The inhibition efficiency is temperature independent in the temperature range of 298-328 K. Adsorption of the substance on the surface of steel obeys the Frumkin isotherm model.

关键词: Corrosion Inhibition Limonene Acid Adsorption

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