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Corrosion Inhibition of Ethanol Extract of Cassava (*Manihot esculenta*) Leaves on Mild Steel in Sulfuric Acid

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Abstract: The corrosion inhibition of mild steel in 0.5 M H_2SO_4 in the presence of ethanol cassava (*Manihotesculenta)* leave extract (ECLE) has been investigated using Fourier Transform Infra Red Spectroscopy (FTIR), Scanning Electron Microscopy (SEM)/ Energy Dispersive X-Ray (EDX), weight loss and potentiodynamic polarization methods. Analysis of the results showed that the addition of ECLE inhibits the corrosion of mild steel in 0.5 M H_2SO_4 and acts as a good inhibitor. Inhibition efficiency increases with increasing concentration of the ECLE and decreases with increasing temperature. The adsorption of the ECLE on the mild steel surface follows the Langmuir adsorption isotherm.Polarization measurements indicated that ECLE acts as a mixed inhibitor.The value ofthe free energy of adsorption indicated that the adsorption of inhibitor molecules was typical of physisorption.
Keyword : corrosion, inhibitor, *Manihot esculenta*, ethanol, mild steel.

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