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Study of Mild Steel Corrosion in Sulphuric acid medium by Moringa oleifera leaf extract by Electrochemical and Surface Analysis Studies

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Abstract : The inhibitive effect of *Moringa oleifera* leaf extract on mild steel corrosion in 1N H_2SO_4 solution was studied using electro chemical techniques and gravimetric method. The weight loss results showed that the plant extract was an excellent corrosion inhibitor. The inhibition efficiency increased with increase in concentration of the plant extract. The highest inhibition efficiency of 96% was observed with 8ml of plant extract in acidic medium. Immersion period was carried out to optimize the period of immersion. The surface studies such as FT-IR, scanning electron microscopy (SEM), EDAX were carried out to confirm the protective layer formed on the metal surface. The inhibition effect is due to the adsorption of active molecules leading to the formation of a protective layer on the surface of mild steel. **Keywords :** Acid corrosion inhibition, *Moringa oleifera*, Mild steel, Weight loss, Polarization, Impedance spectra.

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