

**AQUEOUS EXTRACTS OF MANGO LEAF AS GREEN CORROSION
INHIBITORS FOR SUS304 IN HCl AND H₂SO₄ SOLUTIONS**

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ABSTRACT

AQUEOUS EXTRACTS OF MANGO LEAF AS GREEN CORROSION INHIBITORS FOR SUS304 IN HCl and H₂SO₄

Green corrosion inhibitors in acid mediums have advantages of wide source, low cost and environmental protection. This work aim to use an extract of *Mangifera indica* leaf as corrosion inhibitor for two types of acids. *Mangifera indica* leaf extract (MLE) was prepared through solvent extraction in 60:40 ethanol: water solvent system. The presence of active components with aromatic and oxygen-containing functional groups in the *Mangifera indica* leaf extract was demonstrated by FT-IR and UV-Vis analysis. The functional groups presence in the extract were (O-H, C=C, C=O, and C-H). Corrosion tests, weight loss measurements, and surface studies were used to investigate the inhibition of SUS304 corrosion in HCl and H₂SO₄ solutions using *Mangifera indica* leaf extract. The results showed that as inhibitor concentration increased, inhibition efficiency increased, reaching a maximum of 91% after 3 hours with 900 ppm inhibitor. The corrosion inhibitor efficiency was dependent on *Mangifera indica* leaf extract concentration and types of acid medium. This finding will give good implication to metal industries in utilizing green, environmentally friendly, less toxic and biodegradable corrosion inhibitors.

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