

Abstract

The use of inorganic and synthetic organic compounds as corrosion inhibitors is becoming less prevalent due to environmental concerns. The use of environmentally friendly compounds is currently the focus of the majority of corrosion mitigation research. In this study a weight loss gravimetric technique was used to analyse the inhibitive effect of leaf extract from *Lasienthera africanum* against mild steel corrosion in hydrochloric acid solution. The inhibitor concentrations used were 20, 40, 60, 80 and 100 ppm in hydrochloric acid concentration of 0.5 M. The extract was shown to have a 98.6% inhibitory effectiveness in inhibiting the corrosion of mild steel coupons in acid environments, making it an excellent corrosion inhibitor against steel dissolution. It was revealed that the inhibitor efficiency increased as the inhibitor concentration increased, It was also shown that the weight loss decreased with an increase in inhibitor concentration. Scanning electron microscopy showed that as the concentration of *Lasienthera africanum* extract increased, the corroding system maintained a surface morphology generally devoid of micro-cracks on the test materials. Therefore, *Lasienthera africanum* leaf extract, with an inhibition efficiency of 98.6% on mild steel can be recommended for use in high acidic environment.