**ABSTRACT**

The influence of benzothiazole derivatives on corrosion inhibition of mild steel in 1 M H2SO4 was studied by weight loss, potentiodynamic polarization andAC-impedance techniques. The synergistic effect by the addition of halide ions had been studied. The experimental results showed that the inhibition efficiency increases with increasing inhibitor concentration, but decreases with increasing temperature; potentiodynamic polarization curves showed that benzothiazole derivatives acted as cathodic inhibitors in 1 M H2SO4. This was supported by the impedance measurements which showed a change in the charge transfer resistance and double layer capacitance, indicating adsorption of Benzothiazole derivatives on the mild steel surface. Atomic absorption spectroscopy studies showed that the inhibition efficiency increases with increasing inhibitor concentration.