**ABSTRACT**

Present study involved the synthesis of o-chlorophenyl-2-imidazoline (OCP2I) and its inhibition behaviour on mild steel corrosion in sulphuric acid and hydrochloric acid media, using weight loss method and electrochemical methods. The results of weight loss method revealed that the inhibitor shows a maximum efficiency of 84.55% in H2SO4 at 200 ppm and 91.42% in HCl medium at 120 ppm of concentration. Thermodynamic parameters indicated physisorption mode of adsorption of o-chlorophenyl-2-imidazoline follows Langmuir and Temkin adsorption isotherms. Potentiodynamic polarization and impedance studies were conducted to investigate the mechanism of the inhibition and the present system follows mixed mode of inhibition.