**ABSTRACT**

Corrosion is a serious problem faced by all the industries. The use of inhibitors is a simple and cost effective method to control corrosion. This paper reports the synthesis of a novel Schiff base and its application as corrosion inhibitor for mild steel. Methodology: Inhibition behaviour of synthesized Schiff base for the corrosion of mild steel in 1M H2SO4 was studied by weight loss measurements, potentiodynamic polarization, and andelectrochemical impedance spectra. Results: The results revealed that the efficiency depends on concentration of the inhibitor and temperature. The inhibitor obeys Langmuir isotherm indicating monolayer adsorption on the mild steel surface. Thermodynamic parameters show that the adsorption of the inhibitor on mild steel surface occurs through electrostatic attraction. Polarization studies show that the inhibitor behaves as mixed type in 1M H2SO4 affecting both anodic metal dissolution and cathodic hydrogen evolution. The formation of surface adsorptive film of the Schiff base on the mild steel surface was confirmed by SEM and EDX studies. Conclusion: The prepared Schiff base is found to be a very good inhibitor for the mild steel corrosion in sulphuric acid media even at low concentration offers more than 90% inhibition efficiency