**ABSTRACT**

The synergistic action caused by halide ions (Cl-, Br- and I-) and surfactants (cetyltrimethyl ammonium bromide and sodiumlaurylsulphate) on the corrosion inhibition of mild steel in 1M H2SO4 by thiazolothiadiazole derivative namely 5phenyl-5H-thiazolo[4,3-b][1,3,4]thiadiazole-2-amine (PTA) was studied using weight loss method at 303 K. It was found that the addition of iodide ions and surfactants enhance the inhibition efficiency to a considerable extent. Adsorption of the inhibitor alone and in combination of halide ions and surfactant was found to obey Temkin adsorption isotherm. The synergism parameter (S1) is defined and evaluated from the inhibition efficiency values. This parameter for the different concentrations of halide ions and surfactants from weight loss method is found to be greater than unity indicating that the enhanced inhibition efficiency of the inhibitor caused by the addition of halides and surfactants is due to synergism