Experimental Study of 2-Amino-5-(4-nitrophenyl)-1, 3, 4-Thiadiazole for MS in HCl Solution

Abstract: The present work aims to study the inhibition performance of new organic inhibitor namely ANTD “2-amino-5-(4-nitrophenyl)-1,3,4-thiadiazole” on corrosion of mild steel (MS) in HCl environment at the concentration of 1.0 M through using weight loss techniques. Weight lost measurements demonstrates the presence of a film on MS surface in existence of organic substance. The inhibition performance of ANTD at various concentrations for mild steel increases with increasing concentration and with an increased in the immersion time and decreased with raising temperatures degrees. The optimal inhibition efficiency of (ANTD), 82%, was achieved for mild steel when immersed with the highest utilized concentration for 6 hrs.

Keywords: Mild steel, Corrosion Inhibition, ANTD.