

Weight Loss and Surface Analysis Study of Mild Steel Corrosion Inhibition Using 4-((4-Nitrophenyl)-Diazenyl)-3,5-Dimethyl-1H-Pyrazole Compound

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Abstract: *The organic heterocyclic 4-((4-nitrophenyl)-diazenyl)-3,5-dimethyl-1H-pyrazole was synthesized and used as a corrosion inhibitor in a saline solution containing mild steel. The corrosion inhibitor efficiency was evaluated using the weight-loss method. The inhibition efficiency of the inhibitor increases with its concentration. At a higher concentration of 600 ppm, it showed good inhibition efficiency. Characterization of pyrazole is performed using FTIR. The surface morphology of the inhibitor was investigated using SEM and EDAX techniques. This paper represented the inhibition of the inhibitor on the surface of the mild steel. The protective monolayer of the inhibitor formed on the metal surface*

Keywords: Corrosion, cooling water system, mild steel, saline solution

