ORGANIC COMPOUNDS AS CORROSION INHIBITORS FOR CARBON STEEL IN SOUR ENVIRONMENT LIKE NACE TM 0177

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In this work, the results obtained from the electrochemical evaluation of four organic compounds with corrosion inhibiting properties, are presented. Such compounds were tested on carbon steel SAE1018 immersed in a solution like NACE TM 0177 without and with H2S. Evaluation of the compounds was carried out using the linear polarization and polarization curves. Also, the stirring effect was evaluated using a rotatory disk electrode and a 1000-rpm rotation speed. Some of the compounds evaluated showed low efficiency in absence of H2S but, this last increased when the H2S was added. On the other hand, stirring provoked that the corrosion products film formed with some compounds, was dissolved, leading the metallic surface exposed again to the corrosive environment. One of the compounds that had better results was the 2-Piridin-2-yl-1H-benzimidazole, which showed good efficiency in the system with H2S and stirring.