Title: Effect of Aminobenzene Concentrations on the Corrosion inhibition of Mild Steel in Sulphuric acid
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Abstract: The inhibiting action of aminobenzene concentration against the corrosion of mild steel in dilute sulphuric acid contaminated with 5% sodium chloride was studied using weight-loss method, calculated corrosion rates from the obtained weight loss data, potentiodynamic polarization measurements and metallographic macrographs. Results show aminobenzene has strong inhibitory effects with inhibitor efficiency increasing with increase in inhibitor concentration at ambient temperature. Maximum efficiency of 99.83% was obtained at 20% concentration of aminobenzene due to adhesion of the inhibitive precipitates through physisorption on the mild steel. This is further justified by the graphs of weight-loss and corrosion rate against exposure which illustrates the corrosion inhibition performance of the inhibitor. Results obtained from potentiodynamic experiments had good correlation with those of the gravimetric methods. The obtained macrographs could also be correlated with the gravimetric method data.