

Turkish Journal of Chemistry

Turkish Journal

The Effects of Benzoic Acid in Chloride Solutions on the Corrosion of Iron and Aluminum

of


Chemistry

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 [Keywords](#)
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Abstract: In this work, the corrosion behavior of iron and aluminum was investigated in 0.1 M NaCl solutions with an initial pH value of 8 and containing various concentrations (0, 30, 150, 300 ppm) of benzoic acid. For this purpose, the anodic and cathodic semilogarithmic current-potential curves, weight loss and pH of the solution were determined over time. The changes in the concentrations of benzoic acid in the solutions with time were determined by a UV spectrophotometer. According to the results obtained in this investigation, benzoic acid in 0.1 M NaCl acts on iron and aluminum as an inhibitor. This effect gets stronger with increasing concentrations of benzoic acid in 0.1 M NaCl solution.



Turk. J. Chem., **26**, (2002), 403-408.

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