SYNERGISTIC INHIBITION EFFECTS OF BTA AND INORGANIC MATTER ON CORROSION OF ZINC IN 1 M NaCl SOLUTION

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The corrosion inhibition of zinc in the presence of benzotriazole (BTA) and oxalate, tungstate, molibdate and phosphate was investigated by electrochemical potential-time, AC-impedance and current-potential methods in 1 M NaCl solution. Corrosion of zinc was very large extent decreased by BTA. However, the corrosion of zinc was increased by adding of the oxalate, tungstate, molibdate and phosphate in the presence of BTA in the 1 M NaCl solution.

Figure 1. Curves of the zinc in the NaCl solution without (●) and with xM MoO₄²⁻(x: 1×10⁻⁵(●), 2×10⁻⁵(●), 1×10⁻⁶(●)) at 10⁻³M BTA and xM MoO₄²⁻(x: 1×10⁻⁵(▲), 1×10⁻⁶(▲)) a) potential-time b) AC-impedance and c) current-potential.

References