The inhibition action of 1(benzyl)1-H-4,5-dibenzoyl-1,2,3-triazole on mild steel in hydrochloric acid media. Abdennabi, A. M. S.; Abdulhadi, A. I.; Abu-Orabi, S. T.; Saricimen, H. Chem. Dep., King Fahd Univ. Pet. Miner., Dhahran, Saudi Arabia. Corrosion Science (1996), 38(10), 1791-1800. Publisher: Elsevier, CODEN: CRRSAA ISSN: 0010-938X. Journal written in English. CAN 126:63163 AN 1996:726131 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

The recently synthesized compd. 1(benzyl)-1-H-4,5-dibenzoyl-1,2,3-triazole (BDBT) possesses a considerable no. of arom. systems. A significant no. of electrons are available on the three nitrogen atoms of the triazole ring. The inhibition effect of BDBT on the corrosion activity of mild steel in acid media has been investigated. Tafel polarization technique, AC impedance measurements and continuous linear polarization resistance method were employed in conjunction with a rotating cylinder electrode app. The corrosion rate of mild steel in 1% HCl was reduced by more than 95% in the presence of 50 ppm of BDBT. The BDBT has a mixed inhibition effect with a significant shift in the free corrosion potential to the cathodic direction. Film persistency tests showed that BDBT forms a stable film on the surface of the electrode.