Relationship between the molecular structure and the inhibition performance of triazole compounds using electrochemical methods. Abdennabi, A. M. S.; Abdulhadi, A. I.; Abu-Orabi, S. Chemistry Department, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia. Anti-Corrosion Methods and Materials (1998), 45(2), 103-108. Publisher: MCB University Press, CODEN: ACMEBL ISSN: 0003-5599. Journal written in English. CAN 129:59863 AN 1998:265131 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Corrosion inhibitors represent the most cost effective and flexible means of controlling internal corrosion assocd. with oil and gas prodn. Tests were carried out to demonstrate the structure/effect relations which are effective in controlling the inhibition efficiency. To illustrate this approach, the substituent field effect at the para position of 1(benzyl)1-H-4,5-dibenzoyl-1,2,3-triazole (BDBT) on corrosion inhibition was studied. Mild steel rotating cylinder electrode in acid media was used in conjunction with Tafel polarization technique, a.c. impedance measurements and continuous linear polarization resistance method. The nitro group was found to cause a considerable decrease in the corrosion inhibition of the parent compd. BDBT. Owing to the induction effects of Br on the arom. ring the bromo deriv. has better inhibition protection than the Me deriv. The corrosion rate profiles obtained from online polarization technique showed that the inhibition capacity of the studied substituents at the para-position increases as follows: NO2 <CH3 <Br <H.