**ABSTRACT**

The literature dealing with aluminium behavior in acid media in the presence of an anti-inflammatorydrug is studied in order to understand its action mechanism, protective film formed and the possibility ofits application according to the inhibition efficiency achieved. Aceclofenac, an anti-inflammatory drug isstudied and its inhibitive performance on aluminium corrosion was studies by both dry and wet labstudies. Dry lab process using DFT is used to explore the relationship between the inhibitor molecularproperty and its inhibition efficiency. Wet lab studies have been carried out using weight loss, Tafelpolarization and impedance measurements to evaluate their inhibitive performance in both 1M HCl and0.5M H2SO4. PZC were calculated from impedance studies in order to understand the mechanism ofinhibition. Polarization studies prove mixed type of inhibition. Good inhibition efficiency from weight lossstudies was evidenced in both the acid medium, furnishing an inhibition efficiency of more than 80 %.The inhibition effect results from the adsorption of the inhibitor molecule via the lone pair of electrons onthe hetero atoms together with the adjacent aromatic ring, on the metal surface forming a protectivecomplex film. According to the results summarized, aluminium corrosion can be successfully inhibitedby the drug used in the study in both the acid solutions. Results obtained from dry lab process are ingood agreement with those recorded from wet lab experiments.