



Study Of Corrosion Inhibition Effect Of Punica – granatum Fruit – Shell Extract On Carbon Steel In 0.5M Hydrochloric Acid Solution

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Abstract

Naturally occurring substances are increasingly being tried as corrosion inhibitors of metals in acid cleaning processes to replace some toxic and expensive chemicals currently in use. The inhibitive action of *Punica – granatum* fruit – shell extract was investigated in 0.5M Hydrochloric acid by weight loss measurements. The work showed that the additive retarded the dissolution of carbon steel to an extent depending on the concentration of the additive. The surface coverage (θ) data augment the above observation and the inhibition is attributed to the physical adsorption of the chemical components of the additive on the surface of the carbon steel. Inexpensive environmentally safe inhibitor formulations indicate have been obtained.

Introduction:

Metals and its alloy are exposed to the action of acids in industry ⁽¹⁾. Processes in which acids play a very important part are acid pickling, industrial acid cleaning of oil refinery equipment, oil well acidizing and acid descaling ^(1,2). The exposures can be most severe but in many cases, corrosion inhibitors are widely used in industry to prevent or to reduce the corrosion rates of metallic materials