Environmental Engineering and Management Journal xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
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"Gheorghe Asachi" Technical University of Iasi, Romania

ACID EXTRACT OF ALOE VERA AS CORROSION INHIBITOR FOR THE CORROSION OF MILD STEEL IN ACIDIC MEDIA

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Abstract

The corrosion inhibition of mild steel in acidic media at 303 – 333K in 0.1 - 0.5M acids (Hydrochloric acid - HCl and Trioxonitrate (v) acid - HNO_3) and 0.01-0.03g/L *Aloe Vera* extract (AVE) were investigated by standard weight loss method. The corrosion rate was calculated in the absence and presence of the inhibitors. The inhibition efficiencies of AVE in both acid media increased with increase in concentration and decreased with increase in temperature and period of immersion. Results showed that acid extract of *Aloe Vera* (AV) could act as adsorption inhibitor and that inhibition efficiency of up to 77.32% could be obtained. Values of the activation energy obtained in AVE are greater than that of the blank. Thermodynamic results indicated that adsorption of AVE on mild steel surface was spontaneous, physically controlled and occurred according to Langmuir adsorption isotherm.

Keywords: aloe vera, corrosion inhibition, HCl, HNO_3, mild steel

Received: October, 2013; Revised final: February, 2015; Accepted: March, 2015

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