Viburnum Sargentii Koehne Fruit Extract As Corrosion Inhibitor For Mild Steel In Acidic Solution

Xiumei Wang*, Yichong Wang, Qing Wang, Ye Wan, Xiaoqi Huang, Chen Jing

School of Materials Science and Engineering, Shenyang Jianzhu University, Shenyang, Liaoning, China 110168

*E-mail: xmwang@alum.imr.ac.cn

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The inhibition effect of *Viburnum sargentii* Koehne fruit extract (JMG) on mild steel corrosion in 1 M HCl solution was studied by weight loss measurement, electrochemical impedance spectroscopy (EIS) and potentiodynamic polarization curves. The results show that the inhibition effect has a relationship with the dosage of JMG. The inhibition efficiency increases as the concentration of JMG increases and exhibits the opposite trend with an increment in the temperature. The maximum inhibition efficiency reaches 93.8% with the addition of 2.0% JMG at 303 K (weight loss results). JMG inhibits the anodic and cathodic processes simultaneously, and E_{corr} does not change with the increasing concentration, indicating JMG exhibits mixed-type inhibition behavior. The adsorption process of JMG obeys the Langmuir isotherm model, which is an exothermic physisorption accompanied by a decrease in entropy. The activation energy determines the corrosion rate of mild steel in 1 M HCl solution.

Keywords: Corrosion Inhibitor; Extract of *Viburnum sargentii* Koehne Fruit; Mild Steel; Acidic Medium; Electrochemical Method

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