

Pengendalian Laju Korosi Baja Karbon Menggunakan Inhibitor Ekstrak Daun Jambu Biji (Psidium Guajava, Linn) Dengan Metode Maserasi

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Abstract	<p>Guava leaf extract has a considerable influence in decreasing the corrosion rate of a metal, because it contains tannin compounds which can be used as corrosion inhibitors. The purpose of this study was to determine the effect of addition of guava leaf extract inhibitors on the corrosion rate of carbon steel with variations in immersion time and determine the inhibition efficiency of variations in the concentration of guava leaf extract on carbon steel in corrosive media. The parameters varied in this study were the immersion time of the maceration process, the inhibitor concentration added in the corrosive solution of hydrochloric acid, namely 0; 0.5; 1.0 and 1.5 g/L as well as variations in the time of corrosion testing at 12, 24, 36 and 48 hours. The time of maceration process shows that the longer the contact time, the greater the concentration of crude tannin, while the time of immersion of steel shows the longer the immersion time, the corrosion rate tends to decrease with the addition of inhibitors and the higher the value of inhibitory efficiency. The best crude tannin concentration was obtained during the maceration process for 6 days with crude tannin concentration of 86.46 mg/L. The lowest corrosion rate was obtained on the addition of 1.5 g/L inhibitors with a 48 hours immersion time of 7.36 mm/year. The highest corrosion rate is without the addition of an inhibitor with a 36 hours immersion time of 26.09 mm/year. The results showed the best inhibition efficiency values using guava leaf extract inhibitors on the addition of 1.5 g/L inhibitors in soaked for 48 hours in 0.5 M hydrochloric acid corrosive media with an efficiency value of 70.31%. Keywords: carbon steel, corrosion rate, guava leaves, inhibitors, maceration</p>
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