

INTISARI

EKSTRAK DAUN SAWO (*Manilkara zapota* L.) SEBAGAI INHIBITOR KOROSI BAJA St.37 DALAM MEDIUM ASAM KLORIDA

Oleh:

FILDA AISHA (BP : 1010412012)

Prof. Dr. Emriadi, MS dan Yeni Stiadi, MS

Inhibisi korosi baja St.37 dalam medium asam klorida dengan ekstrak daun sawo (*Manilkara zapota* L.) telah dipelajari menggunakan pengukuran kehilangan berat dan polarisasi potensiodinamik. Hasil menunjukkan bahwa efisiensi inhibisi meningkat dengan naiknya konsentrasi ekstrak dan menurun dengan kenaikan temperatur. Efisiensi inhibisi diperoleh sebesar 81,24 % pada konsentrasi inhibitor optimum dari metode kehilangan berat dan 85,52 % dari metode polarisasi potensiodinamik. Inhibisi ekstrak terjadi disebabkan oleh adsorpsi ekstrak pada permukaan baja yang sesuai dengan isoterm adsorpsi Langmuir. Metode polarisasi potensiodinamik menunjukkan bahwa ekstrak daun sawo menurunkan arus korosi sehingga efisiensi inhibisi meningkat. FTIR dan foto optik membuktikan adanya lapisan pelindung yang teradsorpsi pada permukaan baja.

Kata kunci: inhibisi korosi, *Manilkara zapota* L., adsorpsi, polarisasi potensiodinamik, isoterm adsorpsi Langmuir.

ABSTRACT

SAPODILLA LEAVES EXTRACT (*Manilkara zapota* L.) AS CORROSION INHIBITOR OF St.37 STEEL IN HYDROCHLORIC ACID MEDIUM

By:

FILDA AISHA (BP : 1010412012)

Prof. Dr. Emriadi, MS dan Yeni Stiadi, MS

Corrosion inhibition of St.37 steel in hydrochloric acid medium by sapodilla (*Manilkara zapota* L.) leaves extract was investigated using weight loss measurement and potentiodynamic polarization. Results show that the inhibition efficiency increases with increasing concentration of the extract and decreases with increasing temperature. The inhibition efficiencies which were obtained using optimum extract concentration were 81,24% by weight loss method and 85,52 % by potentiodynamic polarization method. Potentiodynamic polarization method showed that sapodilla leaves extract decrease corrosion current and increase inhibition efficiency. Inhibitive effect was afforded by adsorption of the extract on steel surface which was found to accord with Langmuir adsorption isotherm. FTIR and photo optic confirmed the existence of the adsorbed protective film on the steel surface.

Keywords: corrosion inhibition, *Manilkara zapota* L., adsorption, potentiodynamic polarization, Langmuir adsorption isotherm.