

## **ABSTRACT**

### **TANNIN EXTRACTION OF *Terminalia catappa* LEAVES AND ITS ACTIVITY AS CORROSION INHIBITOR**

**By**

**Retno Dwi Palupi**

In this study, the tannins extract from ketapang leaves (*Terminalia catappa*) had been tested as a corrosion inhibitor of mild steel in synthetic brine solution with carbon dioxide saturated at room temperature. Stages of the study were : sample collection and preparation, extraction, phytochemical test of tannin using  $\text{FeCl}_3$  and gelatin. Tannins Identifications were performed using TLC, FTIR and ultraviolet-visible spectrophotometer. Corrosion test were carried out in two methodes, the gravimetric and potentiometric methods. Analysis of the surface morphology of corroded steel and mild steel compositions performed using SEM-EDS. The results showed that the test based phytochemicals test, identification by using TLC, spectral data of FTIR and ultraviolet-visible, the extracted compound is tannin. Analysis of the corrosion by weight loss method showed that the optimum inhibitor concentration of 40% v/v in 3 days of exposure, is effective in inhibiting the process of mild steel corrosion in corrosive medium with inhibition efficiency of 60.87%, while the corrosion analysis with potentiometric method showed that the optimum inhibitor concentration of 40% v/v at 10 minutes of exposure, is also quite effective in inhibiting the corrosion of mild steel in the corrosive medium with inhibition efficiency of 1.98%.

Key words : tannin, *terminalia catappa*, corrosion inhibitor