

## **FTIR Analysis on Phase Transformation of Rust In The Presence of Gambir**

### **ABSTRACT**

The performance of gambir reacted with rust by means of FTIR was evaluated. The effects of gambir concentration, contact time and the addition of phosphoric acid in phase transformation of rust were studied. The FTIR spectra showed that the conversion of lepidocrocite ( $\gamma$ -FeOOH) was the fastest, followed by magnetite ( $\text{Fe}_3\text{O}_4$ ) and goethite ( $\alpha$ -FeOOH) was the slowest. 10% gambir with 3 h contact time was found to be the optimum condition for the phase transformation. Addition of phosphoric acid gave a better performance in phase transformation of rust.