The Effectiveness of Phenolic Compounds in Cassava Leaves as an Inhibitor Against the Corrosion Rate of Steel ST37 in Brackish Water Media
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Abstract

This research aims to determine the effect of various inhibitors of cassava leaf extract 0%, 5%, 10%, and 15% by testing the corrosion rate and inhibitor efficiency. This research was conducted at the automotive engine laboratory and bioscience laboratory, Jember State Polytechnic. In testing the corrosion rate, calculations were carried out before and after immersion of the material according to the corrosion rate formula. and the results obtained were the average corrosion rate for each variation, at 0% variation obtained an average corrosion rate of 4.9907 mpy with an inhibitor efficiency of 0%, at 5% variation obtained an average corrosion rate of 3.0712 mpy with inhibitor efficiency of 39%, at 10% variation obtained an average corrosion rate of 2.3034 mpy with an efficiency of 54%, at 15% variation obtained an average corrosion rate of 1.3436 mpy with an inhibitor efficiency of 73%. So from the results of microphotographs, the average corrosion rate, and the calculation of inhibitor efficiency. The results obtained at the 15% variation were the best compared to the other variations, because from the microstructure test data the corrosion spread at the 15% variation was very thin and uneven, in calculating the corrosion rate the lowest result was 1.3436 mpy, and had the most inhibitor efficiency the percentage is 73%.

Keywords: *Phenolic, Microphoto, Inhibitor Efficiency, Photochemical Test*