

## **CORROSION INHIBITION TEST OF SPEARMINT (*Mentha spicata* L.) LEAF OIL AGAINST IRON: ELECTRONIC MAGAZINE FOR REDOX REACTIONS MATERIALS**

This research aims to test the efficiency of spearmint leaf oil as an organic corrosion inhibitor on iron in hydrochloric acid media and develop an electronic magazine for redox reaction material. The research was carried out in 2 studies, namely experimentally in the laboratory and theoretically using computational chemistry. The experimental study used the weight loss method with variations in inhibitor concentrations of 0, 1000, 2000, 3000, and 4000 ppm and variations in soaking times of 2, 4, 6, 16, and 24 hours. The theoretical study was carried out using the DFT method with the B3LYP function and the 6-31G (d) basis set as well as Monte Carlo simulation. The research results show that spearmint leaf oil can inhibit corrosion in iron with the highest efficiency of 43.05%. The compound that plays the most role in the corrosion inhibition process is the carvone compound. The feasibility of the magazine being developed was tested by expert validators and an average V value of 0.9 was obtained. This value shows that the electronic magazine developed is in the very valid category or very suitable for use and testing on students.

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