

# CORROSION INHIBITION BY CAFFEINE AND CAFFEINE-I- SYSTEM FOR CT38 STELL IN 1M HYDROCHLORIC ACID SOLUTION

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## TÓM TẮT:

The inhibition efficiency of caffeine and caffeine - KI system in controlling corrosion of CT38 steel immersed in acid 1M HCl solution has been evaluated in the absence and presence of them by weight loss method. Influence of caffeine concentration, temperature and immersion period on the inhibition efficiency of the 1.0g/l caffeine - 1%KI system has also investigated. The results of the study reveal that the inhibition efficiency of caffeine for CT38 steel corrosion in 1M HCL vary with concentration; the inhibition efficiency of the 1.0g/l caffeine - 1%KI system increases compared with only use caffeine and changes is not much when increasing in temperature, extending the trial periods. Thermodynamic consideration reveals that adsorption caffeine on CT38 steel surface is spontaneous and occurs according to Langmuir adsorption isotherm. Physical adsorption mechanism has been proposed for the adsorption of the inhibitor from the trend of the inhibition efficiency with temperature and the values of some kinetic and thermodynamic parameters obtained.