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PARAMETRIC CONFIGURATION OF CORROSION COMPARISION BETWEEN THE BURIED ACIDIFIED ACID AND ACIDIFIED SOIL

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INTRODUCTION :

Corrosion is the irreversible deterioration of metals by chemical attack. It occurs when metal interact with its environment causing it or its alloys to return to their unrefined natural forms as minerals and ores (Ogunleye et al., 2019). Metals generally tend to corrode as they always prefer to return to the stable oxide form as a result of corrosion. Low carbon steel is one of the most important metals in existence and has a wild variety of industrial applications. However, it corrodes due to pH, oxidation-reduction potential, chloride and sulfate contents in the acidified moisture in the environment (Popoola et al., 2013, Bhattarai et al., 2016). The Studies on LCS surface reactions in acidified moisture have been the subject of investigation due to areas of applications of LCS for durability in performance and in service (Cheng et al., 2007). Typical situations abound where Synthetic inhibitors have been widely applied to protect metal surfaces against corrosion in the chemical industries, textile wet processing plants, marine, oil and gas industries (Uchenna et al., 2019); Zhang et al., 2012; Markhali et al., 2013). Most synthetic organic inhibitors contain nitrogen, sulphur or oxygen atoms in their structures (Chigondo and Chigondo 2016). The costs of these synthetic inhibitors are high.This is not withstanding, they could be toxic to the environment and human lives. Presently, corrosion scientists and engineers are exploring the use of plant extracts inhibitors that are inexpensive, readily available, environmentally friendly and ecologically acceptable, and renewable. The plant extracts are primarily organic compounds composed of carbon, nitrogen, oxygen and sulphur atoms. They are environmentally friendly and constitute a good displacement for the toxic synthetic inhibitors and consequently promote greenness to the environment Frederick et al., (2020). These readily available green inhibitors are nontoxic, inexpensive and can be extracted from various plant parts (Okafor et al., 2011, Oguzie et al., 2013).

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