Investigation of Biocorrosion in Brass by Arthrobacter sulfureus in Neutral Medium

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Abstract : Microbial corrosion of brass gauze by the aerobic film forming bacteria Arthrobacter sulfurous in neutral media was investigated using gravimetric studies. Maximum weight loss of 166.98 mg was observed for a period of 28 days of exposure to the bacterial medium as against the weight loss of 13.69 mg for control. The optical density studies for the bacterial culture was found to show attainment of stationary phase in 48 h. Scanning electron microscopy analysis of the samples shows the presence of pitting corrosion. The energy dispersive X-ray analysis of the samples showed increased oxygen and phosphorus content in the sample due to bacterial activity.

Keywords : Arthrobacter sulfureus, biocorrosion, brass, neutral medium

Conference Title : ICCREMT 2018 : International Conference on Chemical Reaction Engineering and Materials Technologies **Conference Location :** Singapore, Singapore

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Conference Dates : July 05-06, 2018