

Accepted Manuscript

Efficiency of cationic surfactant as microbial corrosion inhibitor for carbon steel in oilfield saline water

M.A. Deyab



PII: S0167-7322(17)35926-3

DOI: <https://doi.org/10.1016/j.molliq.2018.02.019>

Reference: MOLLIQ 8661

To appear in: *Journal of Molecular Liquids*

Received date: 10 December 2017

Revised date: 24 January 2018

Accepted date: 4 February 2018

Please cite this article as: M.A. Deyab , Efficiency of cationic surfactant as microbial corrosion inhibitor for carbon steel in oilfield saline water. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Molliq(2017), <https://doi.org/10.1016/j.molliq.2018.02.019>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Efficiency of cationic surfactant as microbial corrosion inhibitor for
carbon steel in oilfield saline water**

M.A. Deyab*

Egyptian Petroleum Research Institute (EPRI), Nasr City, Cairo, Egypt.

*** Corresponding author. Tel.: +201006137150; fax: + 202 22747433**

E-mail address: hamadadeiab@yahoo.com

Abstract

The corrosion created by microorganisms (SRB) is a major problem in petroleum field. In this study, the microbial corrosion impedance of carbon steel in oilfield saline water via quaternary ammonium salt (DDAC) has been estimated utilizing weight loss, electrochemical measurements and surface morphology analysis. Quantum chemical approach was used to ascertain the correlation between the inhibitive effect and molecular structure of DDAC. It showed that SRB increased the destruction of carbon steel in oilfield saline water compared to the control. DDAC restricted the corrosion rate of carbon steel whereas increased the difficulty in producing of SRB.

Keywords: oilfield saline water; carbon steel; microbiological corrosion; cationic surfactant

1. Introduction

Download English Version:

<https://daneshyari.com/en/article/7843034>

Download Persian Version:

<https://daneshyari.com/article/7843034>

[Daneshyari.com](https://daneshyari.com)