



Hazardous Effects in Oceanic Water Caused by Offshore Rigs Related to Petrochemicals

Rajib Biswas*

Department of Physics, Tezpur University, India

*Corresponding author: Rajib Biswas, Department of Physics, Tezpur University, India

Received: 📅 September 10, 2019

Published: 📅 September 13, 2019

Abstract

Spillage as well as waste materials of offshore rigs related to petrochemical industries is gradually increasing which is jeopardizing the marine ecology system either directly or indirectly. This brief communication highlights the hazardous effects caused by spillage as well as waste materials from these rigs. Further, the corrosion from these rigs is also pointed out. Apart from this, plausible measures to curb down these ill effects are appraised along with recommendations.

Introduction

There are around more than 500 rigs which are basically offshore as per statistics are concerned. In a recent survey, it is shown that no. of rigs in 2010 were nearing 400. However, within eight years of span, it has escalated to 500 which show the huge demand of oil and natural gas products. This is expected to increase more as rising consumers as well as dependent industries will come into effect near future. Maintenance of these oil and natural gas rigs is a major concern. There is always wear and tear of these machineries/tools with passage of time [1-4]. Some of them turn out to be replenish-able while major chunk of them are irrecoverable/irreparable. This produces lot of sludge material which is eventually dumped into ocean. Alongside of it, there is a recurrent problem of spoilage which directly goes to the marine ocean. These frequent oil spillages, waste products from the offshore rigs in the long-term mix with oceanic water. Needless to mention that major chunk of these waste products are non-biodegradable which cause a heavy impact on the marine bio diversity [2-6]. Above all, the petrochemical wastes possess complex chain structure which requires a long span of time to decompose/ dissociation. Till then, they bio-accumulate which cause the maximum damage to the oceanic ecosystem.

Consequently, the long-term ill effect can become predominant in the relevant constitutional bodies of the marine ecological system. In order to curb down the pollution caused by the offshore rigs of oil and natural gas, there must be adherence to strict protocols which should be abided by all leading stake holders. Strict real time monitoring of waste disposal & spillage should be there to keep track of the ongoing drilling. The old-age installations should

be replenished with state-of-art technologies irrespective of the expenditure involved. Similarly, administering a benchmark or norm to discharge must be brought into effect alongside of it; followed by punitive measures for violators. Again, there is use of several heavy metals in these rigs. The heavy machineries as well as their allied accessories contain these metals. Along with it, the eroding procedures/mechanisms of these machineries over long span of time are also a major concern for the ecology of oceanography. With the advent of newer technologies [5-12], there is lot of development in such cases. However, the erosion is far from total eradication. To circumvent this, there should be effective monitoring systems for erosion as well as heavy metal concentration in oceanic water. Once these are executed with efficacy, the concerned companies can adopt remediation approaches.

References

1. Biswas R (2018) Challenging Factors Influencing Biodiversity, Biodiversity Online J 1(1).
2. Biswas R (2018) Plastic Pollution: A Menace to Marine Biology. Advances in Oceanography & Marine Biology 1(1).
3. Biswas R (2018) Journal of Environmental Hazards 1(2).
4. Biswas R (2019) Heavy Metal Ion Pollution in Aqueous Solution: An Environmental Hazard. Int J Environ Sci Nat Res 16(2): 1-2.
5. Biswas R (2019) Influence of Heavy Metal Ions in Fisheries. Oceanogr Fish Open Access J 9(5).
6. Baruah BS, Biswas R (2018) Selective detection of arsenic (III) based on colorimetric approach in aqueous medium using functionalized gold nanoparticles unit. Material Research Express 5(1).

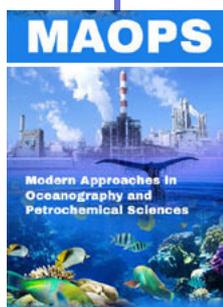
7. Biswas S and Biswas R (2018) Water and Sustainability Issues: A global perspective 2(3).
8. Baruah BS, Biswas R (2018) Localized surface plasmon resonance-based U-shaped optical fiber probe for the detection of Pb²⁺ in aqueous medium. Sensors and Actuators B Chemical, p. 89-94.
9. Baruah BS, Biswas R (2018) An optical fiberbased surface plasmon resonance technique for sensing of lead ions: A toxic water pollutant. Optical Fiber Technology 46: 152-156.
10. Baruah BS, Biswas R, Deb P (2019) A green colorimetric approach towards detection of arsenic (III): A pervasive environmental pollutant. Optics and Laser Technology 111: 825-829.
11. Baruah BS, Biswas R (2019) Mangifera Indica Leaf Extract Mediated Gold Nanoparticles: A Novel Platform for Sensing of As(III).IEEE Sensors Letters 3(3).
12. Baruah BS, Daimari NK, Biswas R (2019) Functionalized silver nanoparticles as an effective medium towards trace determination of arsenic (III) in aqueous solution. Results in Physics 12: 2061-2065.



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here: [Submit Article](#)

DOI: [10.32474/MAOPS.2019.02.000150](https://doi.org/10.32474/MAOPS.2019.02.000150)



Modern Approaches in Oceanography and Petrochemical Sciences

Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles