



SDI Review Form 1.6

Journal Name:	Journal of Materials Science Research and Reviews
Manuscript Number:	Ms_JMSRR_43664
Title of the Manuscript:	Nitrate Electrochemical Reduction using Modified Boron Doped Diamond Electrode from Copper Electroless
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments		
Minor REVISION comments	<p>This paper deals with the electrochemical reduction and removal of nitrate, this is a typical paper for electrochemical applications in environmental protection. The nitrate is an important pollution anion, so I support it to be published in the journal after minor revision.</p> <p>1, all the tables are in three-lines format;</p> <p>2, From this study, the adsorption of nitrate on the electrode surface is a key step for the removal of nitrate and then the electrochemical reduction.</p> <p>3, in the study using 0.01M nitrate for all experiments; but the concentration is too high for the environmental water and the drinking water. If the working conditions translate to real systems all conditions are needed to</p>	<p>1- All the tables are in three-lines format.</p> <p>We corrected all the tables by three-lines format.</p> <p>2- From this study, the adsorption of nitrate on the electrode surface is a key step for the removal of nitrate and then the electrochemical reduction.</p> <p>Thank so much, we agree with the reviewer. We included this information, as described below:</p> <p>For the nitrate reduction firstly the adsorption of the nitrate should occur on the electrode surface. In aqueous media, the following main reactions (1), (2), (3), (4), may take place at the active sites of the cathode electrode:</p> $\text{NO}_3^- (\text{sol}) \leftrightarrow \text{NO}_3^- (\text{ads}) \quad (1)$ $\text{H}_2\text{O}_{\text{ads}} \leftrightarrow \text{OH}^- + \text{H}^+ \quad (2)$ $\text{H}^+_{\text{ads}} + \text{e}^- \leftrightarrow \text{H}_{\text{ads}} \quad (3)$ $2\text{H}_{\text{ads}} \leftrightarrow \text{H}_2 \uparrow \quad (4)$



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	be reset	<p>3- In the study using 0.01M nitrate for the all experiments; but the concentration is too higher for the environmental water and the drinking water. If the working conditions translate to real systems all conditions are need to be reset</p> <p>We agree with the reviewer, but in this manuscript, we used 0.01 M nitrate concentration just with the purpose of choosing which electrode presented the greatest performance with respect to the activity and selectivity in the nitrate eletroreduction. In the nitrate electrolysis, the experiments were carried out using 100 ppm of nitrate.</p>
<u>Optional/General</u> comments		