


## International Journal of Environmental Science and Development

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▶  23159 <a href="#">utamiirawati, Eutrophication Paper_IJESD_template_11 September.doc</a>	September 11, 2022	Manuscript (Word)
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<a href="#">[ijesd] Manuscript ID: IJESD-6709 - Article Processing Charge Confirmation</a>	sunny_qu 2022-09-13 10:13 AM	sunny_qu 2022-09-13 12:04 PM	2	<input type="checkbox"/>

Manuscript ID  
Title

Dear Reviewer and Editor,

First and foremost, the authors would like to express their utmost gratitude to the Editor and Reviewers for their valuable comments and suggestions and for the effort and time spent in attempting to improve the quality of this article throughout the review process. As such, we have attempted to address all queries and corrections as best as possible.

“Comments of the Reviewer” have been included (written in black), followed by “Author’s response” (written in red), which explains how the changes have been incorporated, or provides further motivation. Some extracts from the paper to show how the reviewers’ comments have been addressed are written in blue color. The location of the corrections/motivation has been indicated in red font on the updated manuscript.

We trust we have met the expectations of the Editor and Reviewers.

## **Author detailed response:**

### **Reviewer 1:**

**Comment 1:** This study doesn’t have sufficient data to make a conclusion and it doesn’t have any statistical analysis to determine the effectiveness/ significance of the dose, solvent and pH. Moreover, without any statistical analysis, the author states there is significant difference in effectiveness of the solvent, dose and pH throughout..

**Response:** We do realize that the amount of data might not large enough to have a strong statistical analysis. However, as suggested by the reviewer, a simple t-paired test has been conducted to have a statistical perspective on the data. Even though the statistical result might not indicate that there is any significant difference between coagulation using Chit-AA and Chit-HCl, it should be considered that some extreme values might affect the average values.

**Revised text:** From a statistical point of view, the average turbidity reduction for both coagulant within the dose range being investigated might not be significantly different. However, the significant drop in turbidity reduction for coagulation by Chit-HCl must be taken in account as a factor affecting the average value.

Fig. 3 also showed that at a pH higher than 7, the turbidity reduction for coagulation by Chit-HCl dropped significantly, and continued to decrease when the pH got even higher. As for Chit-AA, the drop of turbidity reduction occurred at pH 9. Due to this pattern, the difference between average turbidity reduction caused by coagulation using Chit-HCl might not seem to be significantly different from coagulation by Chit-AA. Nevertheless, it has shown a clear indication that pH holds a very important role in coagulation in reducing turbidity.

From a statistical point of view, the data obtained in this parameter showed that there was a significant difference of average turbidity reduction between coagulation using Chit-AA and Chit-HCl.

**Comment 2:** The paper doesn't have a data analysis section..

**Response:** A data analysis section has been added as a part of the Methodology.

**Revised text:**

E. Data Analysis

The turbidity reduction for each variables being studied was tabulated and then presented in a bar graphic to have an easier comparison between each data. A simple t-paired test was conducted for the results on each variables, i.e: dosage. pH and acid concentration to have a statistical point of view on the data.

**Comment 3:** The method should be clearly written to allow others to follow its procedure.

**Response:** Some details have been added to make the methods easier to follow by others.

**Revised text:** Samples were treated by coagulation using chitosan that was dissolved in different acid, to investigate whether the solvent of chitosan holds a role in its efficacy to reduce turbidity. Coagulations on samples were done using a standard jar test apparatus (VELP Scientifica JLT-6) with 6 paddles. Samples were mixed rapidly (100 rpm) for one minute, followed by a slow mixing (40 rpm) for 20 minutes. The flocs formed were then let to settle for 30 minutes.

1. *Effect of coagulant dose* To study the effect of coagulant dose, the samples were treated with various doses of coagulants, ranging from 5 to 25 mg/L were added to the samples using volumetric pipette. After the addition of of coagulants, samples were mixed through a rapid mixing and slow mixing using a standard jar-test apparatus as described above.

2. *Effect of pH* To investigate the effect of pH on coagulation, 0.1 N NaOH and or 0.1 N HCl was carefully added to the samples to set the pH. After the samples has had the intended pH, the samples were separated into two, each with equal volume. One of the samples was left without any coagulant addition to function as a control, while the other one was treated by adding 10 mg/L coagulant into it. After the addition of of coagulants, samples were mixed through a rapid mixing and slow mixing using a standard jar-test apparatus as described above.

3. *Effect on solvent concentration* To study the effect of solvent concentration on the efficacy of chitosan as a coagulant, a set of chitosan coagulants were prepared in the concentration of acetic acid and hydrochloric acid with different concentrations, ranged from 1% to 5% . One gram of chitosan was dissolved into 100 mL acid on each concentration. Each coagulants was then added into 1000 mL sample where the dose of coagulant was set to be 10 mg/L, and sample was then treated through rapid and slow mixing using a standard jas test apparatus as described above.

**Comment 4:** The authors select specific dose ranges without any justification and scientific background..

**Response:** Reasoning for the selected dosis range has been added into the manuscript.

**Revised text:** The range of dose in this study was chosen based on the previous research, that in most cases, chitosan needs relatively low dose to reduce turbidity (less than 50 mg/L) [19]–[21].

**Comment 5:** The method, result and discussion section also don't reflect the title and it doesn't state anything regarding the eutrophication status of the water body and how the modified chitosan also alter the status of eutrophication.

**Response:** Additional data on preliminary examination of the water body has been added in the manuscript to justify the eutrophication status.

**Revised text:** A preliminary examination was conducted to measure the phosphate concentration in water in the sampling area. The result of this preliminary examination showed that the phosphate content in the sampling area was as high as 1.254 mg/L. This high level of phosphate indicated that the area was suffering from eutrophication, considering that a phosphate level between 10–30 µg/L is already considered to be moderately eutrophic [2].

**Comment 6:** If the chl-a, TSS and TSS of the water sample were tested, the major source of turbidly could be determined. Moreover, the initial concentration of turbidly and chl-a before the experiment were not mentioned in the result section.

**Response:** Due to the limited funding and facility, the chlorophyll-a and TSS were not measured in this study. However, the initial turbidity for samples on each parameter being studied is shown on each table

**Revised text:** -

**Comment 7:** The title should be modified to reflect the main content of the body (the efficacy of HCl and acidic acid modified chitosan on turbidly removal).

**Response:** The title has been modified as suggested by the Reviewer A

**Revised text:** The Effect of Acetic Acid and Hydrochloric Acid as a Solvent for Chitosan Solvent To Reduce Turbidity in Eutrophic Water

**Comment 8:** As initial concentration of turbidity for different experiment was different, there was not reason or justification given to it.

**Response:** The initial turbidity for each parameter being studied was different because the samples used, despite being taken from the same sampling site, were taken in different days.

This is to ensure the freshness of the samples. The samples were treated and analysed at the same day of being taken from the sample site

**Revised text:** -

**Comment 9:** In table 1, the concentration of initial turbidity is not written correctly, removing commas and full stops.

**Response:** The numbers in the table have been corrected.

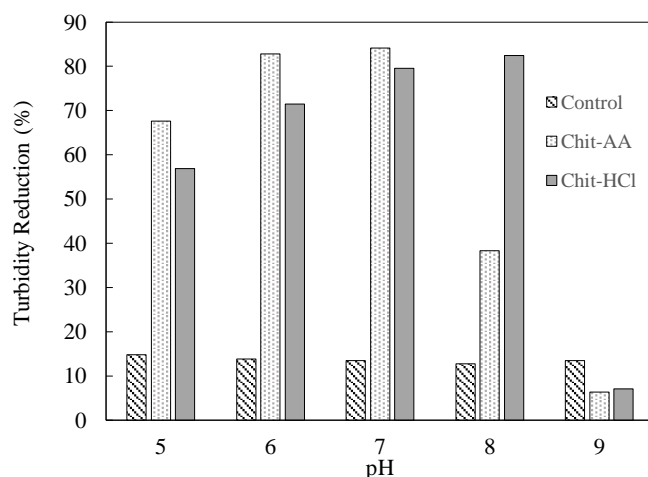
**Revised text:**

Coagulant Dose (mg/L)	Chit-AA		Chit-HCl	
	Initial turbidity (NTU)	Final turbidity (NTU)	Initial turbidity (NTU)	Final turbidity (NTU)
5	42.3	21.2	52.7	11.8
10	42.3	14.9	52.7	7.73
15	42.3	16.3	52.7	13.3
20	42.3	18.3	52.7	22.8
25	42.3	19.2	52.7	41.2

**Comment 10:** In figures 2 and 3 add the value of control.

**Response:** The value of the controls have been added in Figure 3.

**Revised text:**



**Comment 11:** Fig .1 shows the photo of the water body, not the sampling site/location.

**Response:** A correction on the caption of the figure has been made.

**Revised text:**



Fig.1. The water body of the sampling location

**Comment 12:** Follow a consistent citation style..

**Response:** All references and citation were done using the newest version of Mendeley Cite plug-in for MS Word

**Revised text:**

**Comment 13:** Eutrophic water should be removed from the index term( key words ).

**Response:** As suggested, the term *eutrophic water* is removed.

**Revised text:** Index Terms—chitosan, coagulant, turbidity

**Reviewer 2:**

**Comment 1:** Author is suggested to include statistic analysis to support author statement in result and discussion section..

**Response:** Statistical Analysis has been conducted and is attached as an additional file.

**Revised text:** -

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Round 1 Status

The submission must be resubmitted for another review round.

Notifications

<a href="#">[ijesd] Manuscript ID: IJESD-6709 - Editor Decisi...</a>	2022-11-03 04:57 PM
<a href="#">[ijesd] Manuscript ID: IJESD-6709 - Editor Decisi...</a>	2022-12-26 11:10 AM
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Reviewer's Attachments

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Revisions

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▶  27051	<a href="#">Supplementary, Statistical Analysis.xlsx</a>	November 25, 2022	Supplementary
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▶	 27050	<a href="#">Other, Cover Letter_Author Response to Reviewer and Editor.docx</a>	November 25, 2022	Other
▶	 27049	<a href="#">Manuscript (Word), 6709-Manuscript (Word)-23159-2-2-20220911.docx</a>	November 25, 2022	Manuscript (Word)

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<a href="#">[ijesd] Manuscript ID: IJESD-6709 - Manuscript is being sent to peer-review</a>	nancy_liu 2022-09-16 10:41 AM	-	0	<input checked="" type="checkbox"/>
<a href="#">Inquiry on Article Decision</a>	utamiirawati 2022-11-03 08:41 AM	nancy_liu 2022-11-03 04:40 PM	1	<input checked="" type="checkbox"/>
<a href="#">[ijesd] Manuscript ID: IJESD-6709 - Revised Version Received</a>	nancy_liu 2022-11-26 03:27 AM	-	0	<input checked="" type="checkbox"/>



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### Round 2 Status

Submission accepted.

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<a href="#">Inquiry on Article Decision</a>	utamiirawati 2022-11-03 08:41 AM	nancy_liu 2022-11-03 04:40 PM	1	<input checked="" type="checkbox"/>
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<a href="#">Final proofreading version</a>	utamiirawati 2023-01-17 06:28 AM	nancy_liu 2023-01-18 09:29 AM	1	<input checked="" type="checkbox"/>

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29078	<a href="#">nancy_liu, IJESD-6709-Edited.docx</a>	January 13, 2023	Manuscript (Word)
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	2023-10-07			
	04:26 PM			



Utami Irawati &lt;uirawati@ulm.ac.id&gt;

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**[ijesd] Manuscript ID: IJESD-6709 –Submission Acknowledgement**

1 message

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**Ms. Haylee Lin** <haylee.lin@ejournal.net>  
To: Utami Irawati <uirawati@ulm.ac.id>

Sun, Sep 11, 2022 at 10:46 AM

Dear Utami Irawati,

Thank you for submitting the manuscript, "The Effect of Chitosan Solvent To Reduce Turbidity in Eutrophic Water" to "International Journal of Environmental Science and Development". With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Submission URL: <http://ojs.ejournal.net/index.php/ijesd/authorDashboard/submission/6709>

Username: utamiirawati

Please use the manuscript ID (IJESD-6709) in all future correspondence. As corresponding author, you will receive all future communications about this manuscript.

If you have any questions, please contact IJESD editorial office. Thank you for considering this journal as a venue for your work.

Ms. Haylee Lin

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International Journal of Environmental Science and Development

Website: [www.ijesd.org/](http://www.ijesd.org/)

Email: [ijesd@ejournal.net](mailto:ijesd@ejournal.net)



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**[ijesd] Manuscript ID: IJESD-6709 - Editor Decision - Major Revisions**

4 messages

**Ms. Nancy Liu** <nancy.liu@ejournal.net>

Thu, Nov 3, 2022 at 4:57 PM

To: Utami Irawati &lt;uirawati@ulm.ac.id&gt;, Fauziah Aufia Himmah &lt;fauziahaufiahikmah@gmail.com&gt;, Ahmad Budi Junaidi &lt;abjunaidi@ulm.ac.id&gt;

Dear Utami Irawati, Fauziah Aufia Himmah, Ahmad Budi Junaidi,

Thank you for submitting your manuscript "The Effect of Chitosan Solvent To Reduce Turbidity in Eutrophic Water" to International Journal of Environmental Science and Development.

The editorial team and a group of expert reviewers have assessed your submission and feel that it has potential for publication, and we would like to invite you to make a major revision with further review. You can find your manuscript at the following link:

<http://ojs.ejournal.net/index.php/ijesd/authorDashboard/submission/6709>

**Important notice:** Please revise the manuscript according to the reviewers' comments and upload the revised file **within one month. Any revisions should be clearly highlighted**, for example using the "Track Changes" function in Microsoft Word, so that changes are easily visible to the editors and reviewers. **Please provide a cover letter** to explain point-by-point the details of the revisions in the manuscript and your responses to the reviewers' comments. (**download author response template**)

As the reviewer have suggested that your manuscript should **undergo extensive English editing**, please address this during revision. We suggest that you have your manuscript checked by a native English-speaking colleague or use a professional English editing service.

Instruction for uploading a revised version can be found at <https://docs.pkp.sfu.ca/learning-ojs/en/authoring>.

Do not hesitate to contact us if you have any questions regarding the revision of your manuscript.

Ms. Nancy Liu  
[nancy.liu@ejournal.net](mailto:nancy.liu@ejournal.net)

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Reviewer A:

**Comments to Authors**

Nowadays, eutrophication has become one of the main water quality problems worldwide. Therefore, the authors attempt to come up with how chitosan works best in reducing turbidity in the eutrophic water body. The manuscript mainly focused on the effects of acetic acid and hydrochloric acid modified chitosan on reducing turbidity under different pH conditions. The study concluded that HCl modified chitosan at a pH of 8 gives better turbidity removal than acetic acid.

Previous studies focused on the efficiency of chitosan in removing turbidity in drinking as well as in eutrophic water bodies modified with HCl or acetic acid. Moreover, studies state that Chitosan dissolved in HCl was found to perform better than that dissolved in acetic acid e.g (Altaher, H. (2012). The use of chitosan as a coagulant in the pre-treatment of turbid sea water. Journal of hazardous materials, 233, 97-102.). Yet, testing the most effective solvent for turbidity reduction in eutrophic water bodies could add knowledge in the area. However, the study doesn't have sufficient data and any statistical analysis to make any conclusion.

**Major issues**

1. This study doesn't have sufficient data to make a conclusion and it doesn't have any statistical analysis to determine the effectiveness/ significance of the dose, solvent and pH. Moreover, without any statistical analysis, the author states there is significant difference in effectiveness of the solvent, dose and pH throughout.

2. The paper doesn't have a data analysis section.
3. The method should be clearly written to allow others to follow its procedure.
4. The authors select specific dose ranges without any justification and scientific background.
5. The method, result and discussion section also don't reflect the title and it doesn't state anything regarding the eutrophication status of the water body and how the modified chitosan also alter the status of eutrophication.
6. If the chl-a, TSS and TSS of the water sample were tested, the major source of turbidity could be determined. Moreover, the initial concentration of turbidity and chl-a before the experiment were not mentioned in the result section.
7. The title should be modified to reflect the main content of the body (the efficacy of HCl and acidic acid modified chitosan on turbidity removal).
8. As initial concentration of turbidity for different experiment was different, there was not reason or justification given to it

#### Minor issues

1. In table 1, the concentration of initial turbidity is not written correctly, removing commas and full stops
2. In figures 2 and 3 add the value of control
3. Fig .1 shows the photo of the water body, not the sampling site/location
4. Follow a consistent citation style.
5. Eutrophic water should be removed from the index term( key words )

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Reviewer B:

#### Comments to Authors

Manuscript entitled "the effect of chitosan solvent to reduce turbidity in eutrophic water" is well described. Abstract and introduction is well written and meet manuscript scope. However, quality in english can be improved. Author is suggested to send for proofreading service. Result and discussion section is well described. However, no statistic analysis provided. Author is suggested to include statistic analysis to support author statement in result and discussion section.

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International Journal of Environmental Science and Development  
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**Utami Irawati** <[uirawati@ulm.ac.id](mailto:uirawati@ulm.ac.id)>  
To: Ahmad Budi Junaidi <[abjunaidi@ulm.ac.id](mailto:abjunaidi@ulm.ac.id)>

Fri, Nov 4, 2022 at 9:17 AM

[Quoted text hidden]

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**Utami Irawati** <[uirawati@ulm.ac.id](mailto:uirawati@ulm.ac.id)>  
To: "Ms. Nancy Liu" <[nancy.liu@ejournal.net](mailto:nancy.liu@ejournal.net)>

Mon, Nov 7, 2022 at 9:35 AM

Ms. Nancy Liu,

Thank you for giving us the chance to revise the paper. We are grateful for the constructive comments and feedback from both reviewers. All the feedback is noted and would be our guidelines in revising the paper. We would resubmit the paper after revising it, within the timeline given.

Thank you,

Best regards,

**Utami Irawati, S.Si., M. Env. &Sust., PhD**

*Assistant Professor*

Dept. of Chemistry, Faculty of Mathematics and Natural Sciences  
Lambung Mangkurat University  
Banjarbaru - INDONESIA

[Quoted text hidden]

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**nancy.liu** <nancy.liu@ejournal.net>  
To: Utami Irawati <uirawati@ulm.ac.id>

Mon, Nov 7, 2022 at 11:50 AM

Dear Utami Irawati,  
Thank you for your kind reply.  
Await your revisions.  
If you have any inquiry, please feel free to contact me.

Ms. Nancy Liu/Section Editor  
[nancy.liu@ejournal.net](mailto:nancy.liu@ejournal.net)

[Quoted text hidden]



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Utami Irawati &lt;uirawati@ulm.ac.id&gt;

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**[ijesd] Manuscript ID: IJESD-6709 - Editor Decision - Accepted for Publication**

4 messages

**Ms. Nancy Liu** <nancy.liu@ejournal.net>

Mon, Dec 26, 2022 at 11:10 AM

To: Utami Irawati &lt;uirawati@ulm.ac.id&gt;, Fauziah Aulia Himmah &lt;fauziahauliahikmah@gmail.com&gt;, Ahmad Budi Junaidi &lt;abjunaidi@ulm.ac.id&gt;

Dear Utami Irawati, Fauziah Aulia Himmah, Ahmad Budi Junaidi,

We are pleased to inform you that the following paper has been officially accepted for publication in International Journal of Environmental Science and Development.

Title: The Effect of Chitosan Solvent To Reduce Turbidity in Eutrophic Water

Submission URL: <http://ojs.ejournal.net/index.php/ijesd/authorDashboard/submission/6709>Your paper will be charged for publishing (350 USD), and the detailed payment information can be found at the end of this email. **If the payment is ready, please send us the payment screenshot and order ID for the record.**

Once the payment is confirmed, We will make the final preparation, and then return the edited manuscript to you for your approval.

We are excited to move forward with your submission. Please feel free to email us with any questions.

Ms. Nancy Liu

[nancy.liu@ejournal.net](mailto:nancy.liu@ejournal.net)

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**Please proceed with the payment at the following link** (No handling fees)Payment link: <http://confsys.iconf.org/online-payment/18130>Terms of Payment: **10 days**

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Full Name\*:

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Event Acronym\*: IJESD

Event URL\*: <http://www.ijesd.org/>

Acceptance/Paper ID\*: IJESD-6709

Paper Title\*: The Effect of Chitosan Solvent To Reduce Turbidity in Eutrophic Water

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International Journal of Environmental Science and Development

Website: [www.ijesd.org/](http://www.ijesd.org/)Email: [ijesd@ejournal.net](mailto:ijesd@ejournal.net)

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**Utami Irawati** <uirawati@ulm.ac.id>

Mon, Dec 26, 2022 at 11:35 AM

To: "Ms. Nancy Liu" &lt;nancy.liu@ejournal.net&gt;

Ms. Nancy Liu,