



Soerja Koesnarpadi <soerja.koes@gmail.com>

The Result of second review

Soerja Koesnarpadi <soerja.koes@gmail.com>
Kepada: Erna Astuti <erna.astuti@che.uad.ac.id>

17 September 2015 pukul 14.05

Dear commite of ICCE 2015

We send again of paper submission ICCE 10 revision2.
herewith, we attached the revised of submission 10 revision2

Thank you for you attention

Best regards
Soerja Koesnarpadi
[Kutipan teks disembunyikan]

 **ICCE submission 10 revision2.doc**
7265K



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The Result of second review

Erna Astuti <erna.astuti@che.uad.ac.id>
Kepada: soerja.koes@gmail.com

14 September 2015 pukul 10.59

Dear Author,

Herewith, we attach the result of second review. Please revise the paper again according the comment and send your revision no later than September 20, 2015.

Sincerely yours,

Dr. Erna Astuti
Chair, ICCE 2015
Chemical Engineering Department
Universitas Ahmad Dahlan
Email: icce@conintech.org; erna.astuti@che.uad.ac.id
Website: <http://conintech.org/icce/>

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ICCE 2015 notification for paper 10

1 pesan

ICCE 2015 <icce2015-1@easychair.org>
Kepada: Soerja Koesnarpadi <soerja.koes@gmail.com>

Sab, 22 Agu 2015 pukul 07.04

Dear Soerja Koesnarpadi,

We are pleased to inform that your paper

10
MODIFICATION OF MAGNETITE COATED HUMIC ACIDS (Fe₃O₄/HA) TO DEGRADATION OF HEAVY METAL Cu AND Cr FROM LIQUID WASTE ON PLYWOOD INDUSTRIES

Has been ACCEPTED with MAJOR revision.

Paper revision:

1. Please follow the comments from reviewers for revision.
2. Strictly Follow ARPN JEAS Journal style and format
3. Please send your revision no later than August 31, 2015 in the MS Word format for further evaluation to be fully accepted.

Thank you

Regards,

Maryudi

<maryudi@che.uad.ac.id>

----- REVIEW 1 -----

PAPER: 10

TITLE: MODIFICATION OF MAGNETITE COATED HUMIC ACIDS (Fe₃O₄/HA) TO DEGRADATION OF HEAVY METAL Cu AND Cr FROM LIQUID WASTE ON PLYWOOD INDUSTRIES

AUTHORS: Soerja Koesnarpadi and Daniel Daniel

OVERALL EVALUATION: 1 (weak accept)

ORIGINALITY: • Are the problems discussed in the article new? • Does the article point out differences from related research? • Does the article describe an innovative combination of techniques from different disciplines?: 2 (poor)

PLAGIARISM: • If an article (or parts from an article) is suspected to be a substantial copy of an earlier work, the article is rejected.: 2 (Accepted)

SIGNIFICANCE : • Does the article have a considerable contribution to a certain area of research? • Does the article stimulate discussion of important issues or alternative points of view?: 3 (fair)

RELEVANCE: • Does the article fit in the scope of the conference? • Does the article present relevant information for its area of research?: 4 (good)

PRESENTATION : • Does the article have a logic structure? • Is the article clearly written? • Is the article correctly written (from the grammar point of view)? • Does the article present in an appropriate way the terminology for its area of interest?: 4 (good)

Title : • Does the title clearly express the content of the article? • Is the title suggestive for the theme proposed by the conference (if there is a proposed theme)?: 3 (fair)

Abstract : • Is the abstract sufficiently informative? • Does the abstract describe the research and the results? • Does the abstract provide a good perspective on the final message of the article?: 2 (poor)

Introduction : • Does the introduction correctly highlight the current concerns in the area? • Does the introduction specify the research objectives?: 3 (fair)

Methodology: • Are the methods used clearly explained? • Are the methods used validated / recognized? • Are the data and statistics used reliable?: 3 (fair)

Results (1) : • Are the results clearly presented? • Are all relevant connections with others'

work/research declared? • Is the literature used in support of research sufficiently comprehensive and current?: 3 (fair)

Results (2) : • Do the results sufficiently avoid misinterpretation? • Do the results sufficiently avoid assumptions and speculations?: 3 (fair)

Conclusions: • Are the conclusions correctly / logically explained? • Do the conclusions sufficiently avoid misinterpretation? • Do the conclusions sufficiently avoid too general or biased information?: 4 (good)

References : • Do the references reflect the latest work/research in the considered area?? • Are the references correctly indicated in the article? • Are the references properly indexed and recorded in the bibliography?: 2 (poor)

Tables: • Do the tables correctly indicate units and source measuring ? • correctly named and numbered? • Are the data presented correctly valued and interpreted in the article? • Are the tables well proportioned and aesthetically placed in the article?: 3 (fair)

Graphs and figures : • Properly illustrate the discussed subject? • indicate the measuring units and the source? • correctly named and numbered? • Are the data presented in graphs and figures correctly valued and interpreted in the article?: 2 (poor)

Length of article : Respects the limit of length of article Does not respect the limit of length of article: 3 (Accepted)

Paper Template : Respects the paper template of ARPN-JEAS Does not respect the paper template of ARPN-JEAS: 2 (Accepted with minimum changes)

Recommendation for final decision?: 3 (Accepted with minor revisions)

----- REVIEW -----

1. Abstract was not clear enough.
2. Need space after subheading in page 3
3. Insert page number
4. Inconsistently of references :
 - Hajdu et al, 2009 (cited but not mention in references)
 - Forestry and Plantation Planning Agency, 2000 (cited but not mention in references)
 - Polyakov et al (no year in references)
 - Illes and Tombacz (year 2004 or 2003?)
5. Repeat figure number (figure 5)

----- REVIEW 2 -----

PAPER: 10

TITLE: MODIFICATION OF MAGNETITE COATED HUMIC ACIDS (Fe₃O₄/HA) TO DEGRADATION OF HEAVY METAL Cu AND Cr FROM LIQUID WASTE ON PLYWOOD INDUSTRIES

AUTHORS: Soerja Koesnarpadi and Daniel Daniel

OVERALL EVALUATION: 1 (weak accept)

ORIGINALITY: • Are the problems discussed in the article new? • Does the article point out differences from related research? • Does the article describe an innovative combination of techniques from different disciplines?: 4 (good)

PLAGIARISM: • If an article (or parts from an article) is suspected to be a substantial copy of an earlier work, the article is rejected.: 2 (Accepted)

SIGNIFICANCE : • Does the article have a considerable contribution to a certain area of research? • Does the article stimulate discussion of important issues or alternative points of view?: 3 (fair)

RELEVANCE: • Does the article fit in the scope of the conference? • Does the article present relevant information for its area of research?: 4 (good)

PRESENTATION : • Does the article have a logic structure? • Is the article clearly written? • Is the article correctly written (from the grammar point of view)? • Does the article present in an appropriate way the terminology for its area of interest?: 1 (very poor)

Title : • Does the title clearly express the content of the article? • Is the title suggestive for the theme proposed by the conference (if there is a proposed theme)?: 2 (poor)

Abstract : • Is the abstract sufficiently informative? • Does the abstract describe the research and the results? • Does the abstract provide a good perspective on the final message of the article?: 2

(poor)

Introduction : • Does the introduction correctly highlight the current concerns in the area? • Does the introduction specify the research objectives?: 2 (poor)

Methodology: • Are the methods used clearly explained? • Are the methods used validated / recognized? • Are the data and statistics used reliable?: 3 (fair)

Results (1) : • Are the results clearly presented? • Are all relevant connections with others' work/research declared? • Is the literature used in support of research sufficiently comprehensive and current?: 3 (fair)

Results (2) : • Do the results sufficiently avoid misinterpretation? • Do the results sufficiently avoid assumptions and speculations?: 3 (fair)

Conclusions: • Are the conclusions correctly / logically explained? • Do the conclusions sufficiently avoid misinterpretation? • Do the conclusions sufficiently avoid too general or biased information?: 4 (good)

References : • Do the references reflect the latest work/research in the considered area?? • Are the references correctly indicated in the article? • Are the references properly indexed and recorded in the bibliography?: 4 (good)

Tables: • Do the tables correctly indicate units and source measuring ? • correctly named and numbered? • Are the data presented correctly valued and interpreted in the article? • Are the tables well proportioned and aesthetically placed in the article?: 3 (fair)

Graphs and figures : • Properly illustrate the discussed subject? • indicate the measuring units and the source? • correctly named and numbered? • Are the data presented in graphs and figures correctly valued and interpreted in the article?: 2 (poor)

Length of article : Respects the limit of length of article Does not respect the limit of length of article: 2 (Accepted with minimum changes)

Paper Template : Respects the paper template of ARPN-JEAS Does not respect the paper template of ARPN-JEAS: 2 (Accepted with minimum changes)

Recommendation for final decision?: 2 (To be Revised and resubmitted)

----- REVIEW -----

This research is interesting, but the author should fix the grammar of the article. The figures should be cited in the main text.

TITLE OF THE PAPER

Author Name¹, Author Name¹ and Author Name²

¹Departmental Address, City, Country, and Email ID

² Departmental Address, City, Country, and Email ID

ABSTRACT

This document contains the formatting information for the papers presented at the International conference on “**Name of the conference**”. The conference would be held at (**Name of the place**) during **April 6-8, 2014**. The title of the abstract should be in bold Times New Roman font with size equal to 10 pt. The text of the abstract should be in Times New Roman with 10 pt font size. It is recommended that the abstract be in a single paragraph not exceeding 300 words. The abstract should contain the summary of the findings reported. It should also highlight the methods used in the paper. Background information should be minimized or completely avoided in the abstract. The file name should be the title of your research paper. The file format should be MS Word (.doc or docx) [**MS Word 2003 or MS Word 2010**].

Keywords: Margins, Tables, Figures, and Equations (to be formatted in **9pt Times New Roman**)

TITLES

The title of the article should be in **Bookman old style** with font size **14**.

AUTHORS NAMES AND WORK ADDRESSES

The author(s) name should be in Times New Roman with font size 11. The work/departmental addresses should be in Times New Roman with font size 9. Use numbers as a superfix to the author name to indicate his/her departmental addresses and Email IDs. If work address is the same for all authors, then mention the address with the superfix “**1**” for all authors. If there are more than one work addresses, then use numbers to indicate addresses and Email IDs as shown in this template.

TEXT

All the text from **INTRODUCTION** to **REFERENCES** must be in Times New Roman font, with font size of 10 pt. The text must be left aligned across the page as given in this template. Please type the heading in “**UPPERCASE**”. First line of all paragraphs must be indented with 0.5”.

HEADINGS AND SUBHEADINGS

All the headings must be typed in **UPPERCASE**, Times New Roman with font size 10, bold, aligned to the left. The subheadings shall be in Title Case, Times New Roman with font size 10, bold, aligned to the left.

SECTIONS

All sections should be presented as shown in this template. The text of the body of the paper from **INTRODUCTION** to **REFERENCES** should be in Times New Roman with size equal to 10 pt. Double column format is to be used from introduction to references with **column width 3.28”** and **column spacing 0.3”**. The first section should provide the background to the subject matter of the paper. It should not occupy more than 25% of the whole paper.

References should be as mentioned in references section of this document. Use numbered references to cite the references. For example to cite the first reference say: “As mentioned in [1].....”

FIGURES, TABLES AND EQUATIONS

FIGURES

The figures and tables should be centered in the column. The figure caption should be placed below the figure as shown in Figure-1. Figures should be cited in the text as mentioned in the previous sentence. Care should be taken to make the figure captions as clear as possible. Multiple sentences are encouraged in the figure caption if it needs. Figures must be of less than 300 dpi and should be very clear. Please allow at least a 5 pt space between the figure and the text above, the figure caption and the text below it.

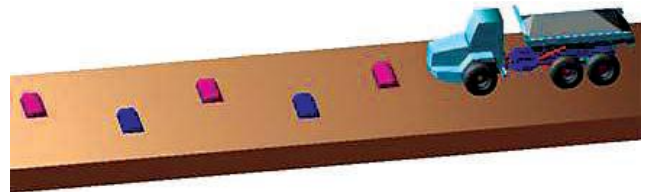


Figure-1. Condition when wheel zigzag gets over block.

TABLES

Tables are to be formatted as shown in Table-1. Table captions should be placed at the top. Tables should be cited in the text as Table-1. Columns should not run to a different page. Wide tables can cut across the two columns, but the text that follows it must be of two columns once again. Allow sufficient gap (at least 5pt) between the Table and the text above/below.

Table-1. Students name list.

S. No.	Reg. No	Name
1	123456	Abcdefgh

EQUATIONS

The equations are to be typed using the Equation Editor in Word. The size should be set to 10 pt. All vectors, matrices and tensors should be in bold type. The equations should be to the left aligned and the equation number appears on the right as shown below. Refer to the equations in the text as Eqn. (1).

$$\sin^2 \theta + \cos^2 \theta = 1 \quad (1)$$

PAGE SETUP

A4 size (8.27" x 11.69") of Portrait format paper is to be used with margins of 0.7" each in all four sides i.e. left, right, top and bottom.

REFERENCES

- [1] Beale M. H., Hagan M. T. and Dewuth H. B. 2006. Fundamentals of machine and machine tools. 2nd Ed. Marcel Dekker Inc. New York, USA. pp. 160-168.
- [2] R. Guduri, A. V. Rajulu and A. S. Luyt. 2008. Effect of alkali treatment on the flexural properties of hildegardia fabric. Journal of Applied Polymer Science. 10(2): 127-134.
- [3] Caldas L. G. and Norford L. K. 1994. Screws, motors and wrenches that cannot be bought in a hardware store. In: Robotics Research: The First International Symposium. M. Brady and R. Paul (Eds.). pp. 679-693.

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MODIFICATION OF MAGNETITE COATED HUMIC ACIDS ($\text{Fe}_3\text{O}_4/\text{HA}$) TO DEGRADATION OF HEAVY METAL Cu AND Cr FROM LIQUID WASTE ON PLYWOOD INDUSTRIES

Comment [A1]: Revise the grammar.

Soerja Koesnarpadi¹ ; Daniel¹

¹ Department of Chemistry, Mathematics and Natural Sciences, Mulawarman University, Samarinda, 75119 Indonesia
Email : soerja.koes@gmail.com

Comment [A2]: See the guidelines from ARPN Journal

ABSTRACT

Modification adsorbent of magnetite (Fe_3O_4) coated humic acids (HA) by a co-precipitation method using ammonium hydroxide have been successfully synthesized. The characterization of FT-IR spectra indicate that the coating $\text{Fe}_3\text{O}_4/\text{HA}$ have been bound by Fe-COO-R and the XRD patterns does not affect of the crystals structure. It's applications to degrade of heavy metal Cu and Cr from liquid waste on plywood industries. Degradation of Cu on $\text{Fe}_3\text{O}_4/\text{HA}$ and Fe_3O_4 i.e up 70-90% and then for Cr on $\text{Fe}_3\text{O}_4/\text{HA}$ and Fe_3O_4 i.e 10-40% only. The performance adsorbent of $\text{Fe}_3\text{O}_4/\text{HA}$ more effectively than Fe_3O_4 for degradation of heavy metal Cu and Cr.

Comment [A3]: Explain background and aim of this study at the beginning of abstract, then describe the method. At the last, explain the result of this research.

Keywords : Modification, Magnetite, Humic Acids, Degradation, Cu and Cr, Liquid Waste

Comment [A4]: Check the guidelines

INTRODUCTION

The coating of surface materials was protective of adsorbent material that serves to make the material properties more attractive, easier to use and can be used for a long time [1]. Magnetite (Fe_3O_4) and humic acid (HA) were a good adsorbent to adsorb of heavy metals. The properties of Fe_3O_4 have unique and characteristic size nanoparticle, high saturation magnetization but susceptible to air oxidation and easily aggregated in aqueous. The HA was macromolecule compound with multifunctional groups but existence on acidic condition only [2]. Therefore, modification of coating HA on Fe_3O_4 particle surface enhanced the stability of nanodispersion by preventing their aggregation by electrostatic, steric or combined stabilization layer, increasing the absorption capacity and did not clot in a wide pH range [3, 4].

The heavy metals of Cu and Cr were categorized very toxic industrial waste. The presence of heavy metals in the environment could be contamination of the waters [5]. According to Government Regulation No. 82/2001 that the heavy metals in environment for Cu i.e 0.2 mg/L and Cr i.e 0.01 mg/L. The processing of plywood industries has liquid waste of phenol but the presence of heavy metals also need to be monitored.

For previous research, the adsorbents of $\text{Fe}_3\text{O}_4/\text{HA}$ used to adsorb of heavy metals Hg, Pb, Cu and Cr from water [6], sulfathiazole [7], benzene [4] and rhodamine B [8]. And then, functional groups of humic acid are dominant depending on climate zone region so that the COOH and OH groups each different region [9]. In this research will be modification of Fe_3O_4 coated HA by co-precipitation method in which the HA was extracted of peat soil from Sambutan village, East Kalimantan. And then to determine the performance of Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$ for degradation of heavy metal Cu and Cr from liquid waste on plywood industries.

MAGNETITE (Fe_3O_4)

Magnetite (Fe_3O_4) was ferromagnetic mineral containing Fe(II) and Fe(III) and has crystal structure inverse spinel with a unit cell consisting of 32 oxygen in face-centered cubic structure.

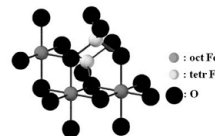


Figure-1. Crystal structure of Fe_3O_4 [10]

The properties of Fe_3O_4 have unique size nanoparticle, high saturation magnetization, uniform surface morphology but susceptible to air oxidation and easily aggregated in aqueous [2].

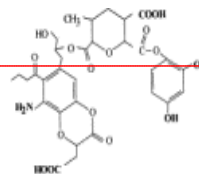
HUMIC ACIDS (HA)

The HA was macromolecule compound with complex functional groups such as carboxylic groups, phenolic or hydroxyl but existence on acidic condition only [11]. According Klavin and Eglite [12], Hypothetic structure of HA to illustrates with reactive of functional groups such as hydroxyl, alcoholic, phenolic, carboxyl and amide to perform reactions of immobilization.

Comment [A10]: Small alphabet

Comment [A11]: s?

Comment [A5]: Were used?



Comment [A6]: Complete this sentence.

Figure-2. Hypothetic structure of HA [12]

Comment [A7]: Grammatically error, please revise it

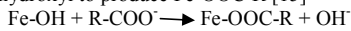
LITERATURE REVIEW

THE COATING OF $\text{Fe}_3\text{O}_4/\text{HA}$

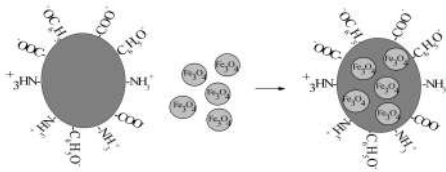
Comment [A12]: Small alphabet

The binding HA on Fe₃O₄ was essentially altering the surface properties, stability of colloidal magnetite [13], increasing the particle size, pressing strength and stability of the magnetic properties of penetration [14] and effectively preventing their aggregation [3].

The magnetite coated HA could be alkaline conditions (pH > 7.9), at above the pH of PZC the surface charge is negative, the dominant interaction between HA and Fe₃O₄ is probable a ligand-change reaction with surface hydroxyl to produce Fe-OOC-R [15]



The mechanism of magnetite was stabilized by HA was a



cylindrical nanocontainer [16].

Figure-3. Mechanism of stability magnetite on HA [16]

The adsorption capacity of metal cations with Fe₃O₄/HA was reported to be larger than that with the respective HA or Fe₃O₄ alone. Liu *et al* [8] conducted that Fe₃O₄ coated HA stable in neutral acid-base aqueous solution at 0.1 M HCl to 2 M NaOH and then degradation of heavy metals by Fe₃O₄/HA was for Hg (II) and Pb (II) to 99% while for Cu (II) and Cd (II) to 95%.

PLYWOOD INDUSTRY: THE EXISTENCE AND POTENTIAL OF WASTE

The Indonesian plywood industries develops from 1990 and culminating in 1997, production of plywood reached 10.270 million m³. However, beginning in 2000, production of plywood declined to 4.611 million m³. This was due to the raw material begin to decreases [17]. The East Kalimantan forest still has potential in the production of processed plywood to 347,347.13 m³ in 2013 [18] so there are still some plywood industries in East Kalimantan which persist in producing plywood. The plywood industry has the potential to produce liquid waste and according to Minister of the Environment No.5/2014 that potentially liquid waste were BOD₅, COD, TSS, phenol, ammonia and pH. The phenols of very toxic and the greatest. While the presence of heavy metals also needs to be monitored due to the impact of heavy metals including dangerous for living beings.

MATERIALS AND METHODS

MATERIALS

All reagents in analytical grade i.e., FeCl₃.6.H₂O, FeSO₄.7.H₂O, NH₄OH 25%, Standart of Cu and Cr, Nitrogen gas and Aquabidest. The Humic acid (HA) was extracted from peat soil in Sambutan village, Samarinda, East Kalimantan, Indonesia.

METHODS:

MODIFICATION OF Fe₃O₄ COATED HA

The coating of Fe₃O₄/HA was prepared by the coprecipitation method. FeCl₃.6.H₂O : FeSO₄.7H₂O (3:2) were dissolved into 25 mL water and heated to 90°C. Added gradually of NH₄OH 25% until pH 11 for 30 minutes by magnetic stirrer to form a black powder in the solution. Then quickly 0.125g of HA sodium salt dissolved in 12.5 mL of water were added rapidly and sequentially. The mixture was aged at 90°C for 30 minutes and then cooled to room temperature. The black precipitate was separated from solution by filtering and washed to neutral with water. The characterization of precipitate by FTIR spectrometer and XRD.

SAMPLING OF LIQUID WASTE ON PLYWOOD INDUSTRIES

The sample of liquid waste from Mahakam rivers and plywood industries such as SLJ, KLM and TMR. Then analysis preliminary of Cu and Cr on plywood industries by Atomic Absorption Spectrophotometer.

PERFORMANCE OF Fe₃O₄/HA AND Fe₃O₄ FOR DEGRADATION Cu AND Cr

The sample of liquid waste was added standard of Cu and Cr and then added 0.3 g Fe₃O₄/HA and Fe₃O₄. The performance of Fe₃O₄/HA and Fe₃O₄ using batch method system for 0, 3 and 6 hours. The mixture was filtered and the filtrate was determined by Atomic Absorption Spectrophotometer.

RESULT AND DISCUSSION

The synthesis of Fe₃O₄ and coating of Fe₃O₄/HA were prepared by the co-precipitation method and then adsorbent was characterized by FT-IR spectrometer and XRD.

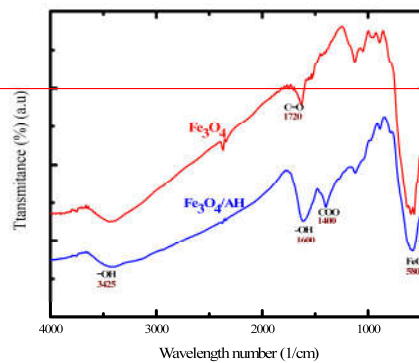


Figure-4. FT-IR Spectra of Fe₃O₄ and Fe₃O₄/HA

The FT-IR spectra Fe₃O₄ and Fe₃O₄/AH obtained at 563 cm⁻¹ were attributed to the stretching vibration of Fe-O bond and OH at 3425 cm⁻¹. Successfully coating of Fe₃O₄/HA shows the C=O stretching at 1400 cm⁻¹ and loses 1700 cm⁻¹ at Fe₃O₄. This indicate of carboxylate anion interacting with FeO as the C=O stretches in free carboxylate acids [4].

Comment [A14]: Please revise the sentence. Put "quickly" at the right way

Comment [A15]: ??? please revise the sentence. Put "quickly"

Comment [A13]: Revise this sentence

Comment [A16]: Make this sentence clearly

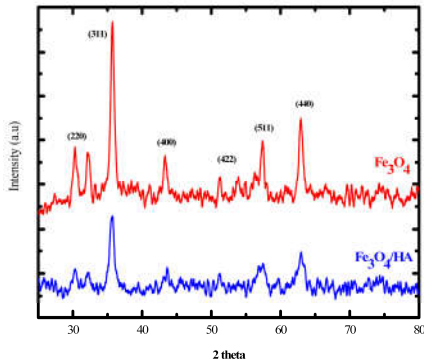


Figure-5. XRD pattern of Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$

The XRD patterns of Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$ had similar diffraction peaks at $2\theta = 30,1^\circ, 35,4^\circ, 43,1^\circ, 57,0^\circ, 62,68^\circ$ dan $74,5^\circ$. The XRD measurement was used to identify the crystalline structure of the product. The XRD peaks can match well with the characteristic peaks of inverse cubic spinel structure (JCPDS 19-0629). This result indicates that the crystal structure of Fe_3O_4 was not changed after modification with HA.

PERFORMANCE OF $\text{Fe}_3\text{O}_4/\text{HA}$ AND Fe_3O_4 FOR DEGRADATION Cu

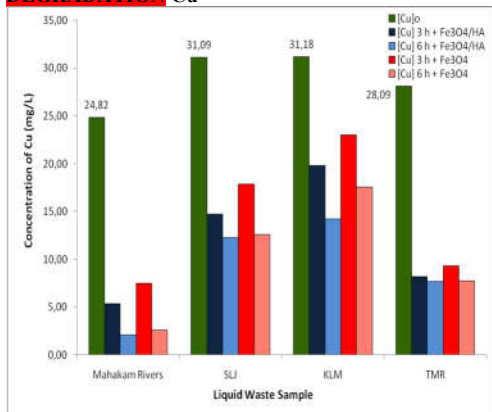


Figure-6. Histogram of degradation Cu by Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$ for 0, 3 and 6 hours

Degradation of Cu on Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$ for 3 and 6 hours i.e up to 70- 90%. This is due to that the plywood waste that mostly in form of anions and rarely in the form of cations, so that the Cu cation on liquid waste on plywood industries will be maximum of degraded on the adsorbent.

PERFORMANCE OF $\text{Fe}_3\text{O}_4/\text{HA}$ AND Fe_3O_4 FOR DEGRADATION Cr

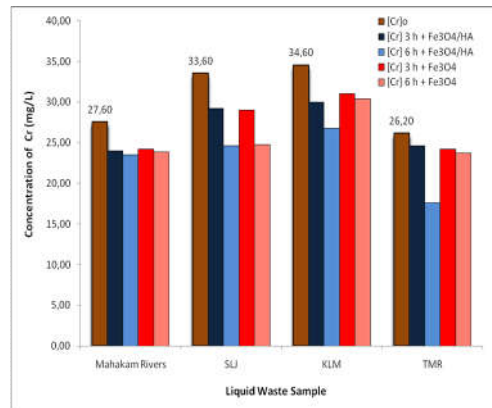


Figure-7. Histogram of degradation Cr by Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$ for 0, 3 and 6 hours

The degradation of Cr on Fe_3O_4 and $\text{Fe}_3\text{O}_4/\text{HA}$ for 3 and 6 hours were relatively small i.e 10-40% only. This caused that the plywood waste pollutants mostly anions, such as phenol, chlorophenol or nitrophenol etc, while Cr in water in the form of anions. This is due to competition of degrade Cr and phenol waste. In general, degradation of Cu and Cr using $\text{Fe}_3\text{O}_4/\text{HA}$ more effectively than using Fe_3O_4 .

Comment [A17]: Revise grammar

CONCLUSIONS

Modification of Fe_3O_4 coated Humic acid ($\text{Fe}_3\text{O}_4/\text{HA}$) could be successfully synthesized and effective to degradation of heavy metal Cu and Cr. Degradation of Cu on $\text{Fe}_3\text{O}_4/\text{HA}$ and Fe_3O_4 were greater than degradation of Cr. Degradation of Cu and Cr using $\text{Fe}_3\text{O}_4/\text{HA}$ more effectively than using Fe_3O_4 .

ACKNOWLEDGEMENTS

We gratefully acknowledge the Ministry of Higher Education, Republic of Indonesia for providing financial research of HIBAH BERSAING step 2.

Comment [A18]: Give the number of contract

REFERENCES

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- [2] Maity D., and Agrawal, C, 2007, Synthesis of iron oxide nanoparticles under oxidizing environment and their stabilization in aqueous and non-aqueous media, *J. Mag. Magn. Mater.*, 308, 46-55
- [3] Tombacz, E, Horvat, M., and Illes, E., 2006, Magnetite in aqueous medium : coating its surface and surface coated with it, *Rom. Rep. Phys.*, 58, 281-286

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General comment:

- Delete header
- There are a lot of grammatical error (see the comments and highlight). Please revise them carefully
- Write subsection with small alphabet

Comment [A19]: See this part