

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah : The Effect of Temperature on Vermicelli Drying under Dehumidified Air
 Jumlah Penulis : 5 Orang (**S.B. Sasongko**, B. P. Rini, H. Maehiroh, F.D. Utari and M. Djaeni)
 Status Pengusul : Penulis ke-1
 Identitas Prosiding : a. Judul Prosiding : International Conference on Chemical and Material Engineering (ICCME 2020)
 b. ISBN/ISSN : Online ISSN: 1757-899X, Print ISSN: 1757-8981
 c. Thn Terbit, Tempat Pelaks. : 2021, Semarang, Indonesia
 d. Penerbit/Organiser : IOP Publishing
 e. Alamat Repository/Web : <https://iopscience.iop.org/article/10.1088/1757-899X/1053/1/012102>
 Alamat Artikel : <https://iopscience.iop.org/article/10.1088/1757-899X/1053/1/012102/pdf>
 f. Terindeks di (jika ada) : Scopus

Kategori Publikasi Makalah : ☒ Prosiding Forum Ilmiah Internasional
 (beri ✓ pada kategori yang tepat) ☐ Prosiding Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi prosiding (10%)	3,00	3	3
b. Ruang lingkup dan kedalaman pembahasan (30%)	8,8	8,4	8,6
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	8,8	8,4	8,6
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9,00	8,4	8,7
Total = (100%)	29,6	28,2	28,9
Nilai Pengusul = (40% x 28,9) = 11,56			

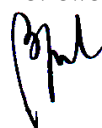
Semarang, 1 Maret 2021

Reviewer 2



Prof. Tutuk Djoko Kusworo, S.T., M. Eng. Ph.D.
 NIP. 197306211997021001
 Unit Kerja : Dept. Teknik Kimia FT UNDIP

Reviewer 1



Prof. Dr. Ir. Budiyo, M. Si.
 NIP. 1966020201991021001
 Unit Kerja : Dept. Teknik Kimia FT UNDIP

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah : The Effect of Temperature on Vermicelli Drying under Dehumidified Air
 Jumlah Penulis : 5 Orang (**S.B. Sasongko**, B. P. Rini, H. Maehiroh, F.D. Utari and M. Djaeni)
 Status Pengusul : Penulis ke-1
 Identitas Prosiding : a. Judul Prosiding : International Conference on Chemical and Material Engineering (ICCME 2020)
 b. ISBN/ISSN : Online ISSN: 1757-899X, Print ISSN: 1757-8981
 c. Thn Terbit, Tempat Pelaks. : 2021, Semarang, Indonesia
 d. Penerbit/Organiser : IOP Publishing
 e. Alamat Repository/Web : <https://iopscience.iop.org/article/10.1088/1757-899X/1053/1/012102>
 Alamat Artikel : <https://iopscience.iop.org/article/10.1088/1757-899X/1053/1/012102/pdf>
 f. Terindeks di (jika ada) : Scopus

Kategori Publikasi Makalah : ☒ Prosiding Forum Ilmiah Internasional
 (beri ✓ pada kategori yang tepat) ☐ Prosiding Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional 30	Nasional 	
a. Kelengkapan unsur isi prosiding (10%)	3,00		3,00
b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00		8,8
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00		8,8
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9,00		9,00
Total = (100%)	30,00		29,6
Nilai Pengusul = (40% x 29,6) = 11,84			

Catatan Penilaian Paper oleh Reviewer :

- a. Kelengkapan unsur isi artikel (10%).** Artikel telah ditulis dengan lengkap memenuhi kaidah penulisan ilmiah yang baik, mulai dari abstrak sampai kesimpulan dan daftar pustaka. Abstrak juga telah ditulis mewakili keseluruhan isi artikel mulai dari pendahuluan, tujuan, metode penelitian, pembahasan, dan kesimpulan. Pentingnya penelitian dengan mensitasi hasil berbagai penelitian terkini telah ditulis dengan jelas. Artikel memiliki tingkat kesamaan dengan artikel lain sangat rendah di bawah 11 % (hasil check turnitin terlampir).
- b. Ruang lingkup dan kedalaman pembahasan (30%)**
 Hasil penelitian telah dibahas dengan tingkat kedalaman memadai, walaupun kurang mendalam dengan mengingat hanya menggunakan 8 pustaka dari total pustaka yang ada dan hanya menggunakan 2 jurnal terbaru (5 tahun terakhir). Pembahasan juga fokus pada tujuan yang ditetapkan. Sitasi Pustaka telah dilakukan dengan baik, dan semua daftar pustaka (18 buah) telah disitasi tanpa ada yang terlewatkan. Namun demikian Pustaka terkini sebagai acuan pembahasan masih kurang, mengingat hanya 2 artikel dari jurnal terbaru (5 tahun terakhir) yang digunakan.
- c. Kecukupan dan kemutakhiran data /informasi dan metodologi (30%)**
 Informasi tentang metodologi pengambilan data telah dilakukan dengan baik dan mencerminkan diperolehnya data yang valid serta dapat dipertanggung jawabkan. Hal ini memungkinkan diperoleh pula kesimpulan yang sah. Data yang disajikan juga cukup banyak. Namun demikian, artikel ini akan lebih bagus lagi bila didukung dengan pustaka terkini yang memadai, terutama jurnal 5 tahun terakhir untuk meyakinkan diperoleh isu terkini dari penelitian (menggunakan 18 jurnal dengan hanya 2 jurnal terbaru 5 tahun terakhir).

d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)

Prosiding internasional IOP Conference Series: Materials Science and Engineering merupakan prosiding yang diterbitkan oleh penerbit (IOP Publishing Ltd) yang memiliki reputasi baik. Pada umumnya, penerbit juga telah melakukan proses review dengan baik, dengan bekerja sama dengan dewan editor dari panitia conference. Gaya selingkung (sebagaimana author guideline) dan scope artikel juga diikuti secara konsisten. Dewan editor dan penulis juga berasal dari banyak negara.

Semarang, 1 Maret 2021

Reviewer 1



Prof.Dr.Ir. Budiyono, M.Si.

NIP. 1966020201991021001

Unit Kerja : Dept. Teknik Kimia FT UNDIP

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah : The Effect of Temperature on Vermicelli Drying under Dehumidified Air
 Jumlah Penulis : 5 Orang (**S.B. Sasongko**, B. P. Rini, H. Maehiroh, F.D. Utari and M. Djaeni)
 Status Pengusul : Penulis ke-1
 Identitas Prosiding : a. Judul Prosiding : International Conference on Chemical and Material Engineering (ICCME 2020)
 b. ISBN/ISSN : Online ISSN: 1757-899X, Print ISSN: 1757-8981
 c. Thn Terbit, Tempat Pelaks. : 2021, Semarang, Indonesia
 d. Penerbit/Organiser : IOP Publishing
 e. Alamat Repository/Web : <https://iopscience.iop.org/article/10.1088/1757-899X/1053/1/012102>
 Alamat Artikel : <https://iopscience.iop.org/article/10.1088/1757-899X/1053/1/012102/pdf>
 f. Terindeks di (jika ada) : Scopus

Kategori Publikasi Makalah : ☒ Prosiding Forum Ilmiah Internasional
 (beri ✓ pada kategori yang tepat) ☐ Prosiding Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional 30	Nasional 	
a. Kelengkapan unsur isi prosiding (10%)	3,00		3
b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00		8,4
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00		8,4
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9,00		8,4
Total = (100%)	30,00		28,2
Nilai Pengusul = (40% x 28,2) = 11,28			

Catatan Penilaian Paper oleh Reviewer :

- e. Kelengkapan unsur isi artikel (10%)** Artikel ini memiliki unsur yang lengkap (Abstract, Introduction, Method, Results & Discussion, Conclusion, References). State of the art dan tujuan dinyatakan dengan jelas. Penulisan daftar pustaka dan *in-text citation* konsisten dan sesuai dengan petunjuk penulisan. Hasil cek plagiarisme dengan Turnitin menunjukkan kesamaan sebesar 11 %. → (nilai = 10 %)
- f. Ruang lingkup dan kedalaman pembahasan (30%)** Hasil penelitian dibahas dengan baik, Hal ini terlihat dari cara membahasnya dengan mengelaborasi hasil yang didapatkan dengan beberapa peneliti terdahulu. Hal ini dibuktikan dengan total referensi yang digunakan sejumlah 18, yang digunakan pada pembahasan adalah 8 buah atau sebesar 44,4%. Di samping itu pembahasan juga dilakukan secara berurutan pada faktor-faktor yang diteliti yaitu pengaruh suhu pada penghilangan kandungan airnya, kemudian pengaruh suhu terhadap efisiensi panas serta swelling efisiensinya. → (nilai = 28%)
- g. Kecukupan dan kemutakhiran data /informasi dan metodologi (30%)**
 Referensi yang dicitasi dalam artikel ini ada 18, dengan 16 (89%) diantaranya adalah baru (10 tahun terakhir). Hal ini menunjukkan adanya kecukupan data yang digunakan untuk menunjang penulisan artikel ini. Metode penelitian ditulis dengan baik dan jelas dalam penyajiannya, material yang digunakan juga disampaikan dengan jelas . → (nilai = 28%)
- h. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)**
 IOP Conference Series: Materials Science and Engineering merupakan prosiding internasional dengan Penerbit IOP Publishing Ltd. Prosiding ini memiliki memiliki Online ISSN: 1757-899X, url, scope, dan informasi terbitan yang jelas. IOP Conference Series: Materials Science and Engineering terindeks pada Scopus dengan SJR (2019) = 0,2. Editoril board terdiri dari pakar-pakar dari beberapa negara. Author Guideline dan mekanisme pengiriman artikel jelas. Penulisan di tiap artikel konsisten. Penulis berasal dari beberapa negara. Jadi semua unsur kualitas jurnal ini terpenuhi. → (nilai = 28 %)

Semarang, 1 Maret 2021

Reviewer 2

A handwritten signature in blue ink, appearing to be 'Tutuk Djoko Kusworo', written in a cursive style.

Prof. Tutuk Djoko Kusworo, S.T., M.Eng. Ph.D.
NIP. 197306211997021001
Unit Kerja : Dept. Teknik Kimia FT UNDIP



Certificate

DEPARTMENT OF CHEMICAL ENGINEERING
FACULTY OF ENGINEERING DIPONEGORO UNIVERSITY



Setia Budi Sasongko

has successfully accomplished role as

Presenter

in The 4th International Conference on Chemical and Material Engineering (ICCME)

Semarang,
6th-7th October 2020

**Dean of Faculty of Engineering
Diponegoro University**



Ir . M. Agung Wibowo, MM,M.Sc,PhD

**The ICCME 2020
Organizing Committee Chair Person**



Prof. Ir. Didi Dwi Anggoro, M.Eng.,Ph.D



Source details

IOP Conference Series: Materials Science and Engineering

Scopus coverage years: from 2009 to Present

ISSN: 1757-8981 E-ISSN: 1757-899X

Subject area: Engineering: General Engineering Materials Science: General Materials Science

[View all documents >](#) [Set document alert](#) [Save to source list](#) [Source Homepage](#)

CiteScore 2019 0.6 ⓘ

SJR 2019 0.198 ⓘ

SNIP 2019 0.543 ⓘ

CiteScore CiteScore rank & trend Scopus content coverage

i Improved CiteScore methodology ⓘ

CiteScore 2019 counts the citations received in 2016-2019 to articles, reviews, conference papers, book chapters and data papers published in 2016-2019, and divides this by the number of publications published in 2016-2019. [Learn more >](#)

CiteScore 2019 ▾

0.6 = $\frac{28,183 \text{ Citations 2016 - 2019}}{47,300 \text{ Documents 2016 - 2019}}$

Calculated on 06 May, 2020

CiteScoreTracker 2020 ⓘ

0.7 = $\frac{48,405 \text{ Citations to date}}{68,222 \text{ Documents to date}}$

Last updated on 07 February, 2021 • Updated monthly

CiteScore rank 2019 ⓘ

Category	Rank	Percentile
Engineering		
General Engineering	#222/299	25th
Materials Science		
General Materials Science	#371/460	19th

[View CiteScore methodology >](#) [CiteScore FAQ >](#) [Add CiteScore to your site ↗](#)



4th ICCME 2020

INTERNATIONAL CONFERENCE
ON CHEMICAL & MATERIAL ENGINEERING



“Role of Chemical and Material Engineering in Ensuring Food, Water and Energy for Sustainable Development Goals (SDGs)”

06-07
OCTOBER
2020

Online Conference Via :



 iccme.undip.ac.id

MORE INFORMATION :

 (+62 24)7460058

 (+62 24)76480675

 iccme2020@live.undip.ac.id

Keynote Speakers



Dr. Ir. Harsawardana, M Eng
Palm Oil Expert – Yogyakarta, Indonesia



Prof. Dr. Ahmad Zuhairi Abdullah
Universiti Sains Malaysia, Malaysia



Prof. Masaru Watanabe
Tohoku University, Japan



Prof. Dr. I Nyoman Widiasta, ST, MT
Chemical Engineering, Universitas Diponegoro, Indonesia



Prof. Dr. Mohammad Kamil, FIE
Aligarh Muslim University, Aligarh - 202002 (U.P.)
India



Associate Professor Dr. Reza Davarnejad
Chemical Engineering Department,
Arak University, Iran



Dai-Viet N. Vo, Ph.D.
Director Center of Excellence for Green
Energy and Environmental
Nanomaterials (CE@GrEEN),
Nguyen Tat Thanh University, Vietnam



Assistant Professor Dr. Hasliza Bahruji
Centre of Advanced Material and Energy
Sciences Universiti Brunei Darussalam
Jalan Tungku Link, BE 1410
Brunei Darussalam

Preface

International Conference on Chemical and Material Engineering (ICCME) 2020

International Conference on Chemical and Material Engineering (ICCME) is an annual conference organized by Universitas Diponegoro, Indonesia. The theme of ICCME 2020 is **“Role of Chemical and Material Engineering in Ensuring Food, Water and Energy for Sustainable Development Goals (SDGs)”**. The event is designed to emphasize advances and new findings in chemical and material science & technology and their impacts on Sustainable Development Goals (SDGs). The conference will bring together scholars, leading researchers, and experts from diverse backgrounds and applications areas in Science.

The Covid 19 pandemic has forced and taught us to hold international conferences online.

Alhamdulillah, with the permission of Allah SWT, the ICCME 2020 conference can be held online.

We inform you that there are 8 keynote speakers from 7 countries (from Indonesia, Malaysia, Brunei, India, Iran, and Vietnam). However, Prof. Masaru Watanabe (Tohoku University, Japan) could not make a presentation due to other activities.

Meanwhile, there were 179 papers and presenters from 5 countries (from Austria, Japan, Saudi Arabia, Malaysia, and Indonesia). From these papers, 8 papers were selected to be published in International Journal of Renewable Energy Development (IJRED), 5 papers in ASEAN Journal of Chemical Engineering (AJChE), and 139 papers in IOP Conference journals. All journals are indexed by Scopus.

On this good occasion. We apologize if the preparation and implementation of ICCME 2020 is still lacking. This is because we all work from home, making it difficult to coordinate directly. Thank you to all the committees who work responsibly and complement each other. ICCME 2020 event was published on youtube. The link is available form

<https://www.youtube.com/watch?v=sjMfHbVU55g>

<https://www.youtube.com/watch?v=wKPLaPBxRwI>

Finally, Welcome to join online ICCME 2020. Hopefully it will be useful and increase our collaboration in the fields of education and research, especially in Chemical and Material Engineering.

Prof. Dr. Ir. Didi Dwi Anggoro, M.Eng

ICCME 2020 CHAIRPERSON



SCIENTIFIC COMMITTEE

Chairperson:

Prof. Dr. Ir. Didi Dwi Anggoro, M.Eng (UNIVERSITAS DIPONEGORO, INDONESIA, Indonesia)

Members:

Prof. Dr. I Nyoman Widiasta, ST, MT

Chemical Engineering, Universitas Diponegoro, Indonesia

Prof. Masaru Watanabe

Tohoku University, Japan

Prof. Dr. Ahmad Zuhairi Abdullah

University Science Malaysia, Malaysia

Prof. Yao-Hui Huang

National Cheng Kung University, Taiwan

Prof. Jega V Jegatheesan

RMIT University – Australia

Prof. Mohammad Kamil

Aligarh Muslim University – India

Prof. Hokyong Shon

University Of Tecnology Sudney – Australia

Assistant Professor Dr. Hasliza Bahruji

Centre of Advanced Material and Energy Sciences Universiti Brunei Darussalam

Associate Professor Dr. Reza Davarnejad

Chemical Engineering Department, Arak University, Iran

Dai-Viet N. Vo. Ph.D.

Director Center of Excellence for Green Energy and Nanomaterials (CE@GrEEN),

Nguyen Tat Thanh University, Vietnam

Prof. Andri Cahyo Kumoro, ST., MT., PhD

Universitas Diponegoro, Indonesia

Prof. Dr. Hadiyanto, ST., MSc

Universitas Diponegoro, Indonesia

Prof.Dr. Istadi, ST., MT

Universitas Diponegoro, Indonesia

Prof. Dr. Tutuk Djoko Kusworo

Universitas Diponegoro, Indonesia

Prof. Mohammad Ali Khan

Aligarh Muslim University – India

Prof. Dr. Moh. Djaeni ST. M.Eng

Universitas Diponegoro, Indonesia

Prof. Dr. Ir. Mahfud, DEA

Institut Teknologi Sepuluh Nopember (ITS) – Indonesia

Prof. Widodo W. Purwanto

Universitas Indonesia, Indonesia

Dr. Eldon R. Rene

IHE Delft Institute for Water Education – Netherlands

Dr. Moh Fahrurrozi

Universitas Gadjah Mada, Indonesia

Dr. Tjokorde Walmiki Samadhi

Institut Teknologi Bandung (ITB) – Indonesia

Dr. Wahyu Bahari Setianto

Badan Pengkajian dan Penerapan Teknologi (BPPT) – Indonesia

Prof.Dr.Didik Prasetyoko S.Si., M.Sc.

Institut Teknologi Sepuluh Nopember, Indonesia

Table of contents

Volume 1053

2021

◀ Previous issue Next issue ▶

International Conference on Chemical and Material Engineering (ICCME 2020) 6th-7th October 2020, Semarang, Indonesia

Accepted papers received: 11 January 2021

Published online: 25 February 2021

Open all abstracts

Preface

OPEN ACCESS 011001

Preface

+ Open abstract  View article  PDF

OPEN ACCESS 011002

Peer review declaration

+ Open abstract  View article  PDF

Adsorbent Materials

OPEN ACCESS 012001

Wollastonite (CaSiO₃)-based Composite Particles for Synthetic Food Dyes (Brilliant Blue) Removal in Aquatic Media: Synthesis, Characterization and Kinetic study

Lusi Ernawati, Ruri Agung Wahyuono, Andromeda Dwi Laksono, Andriati Ningrum, Kurnia Handayani and Audi Sabrina

+ Open abstract  View article  PDF

OPEN ACCESS 012002

Application of low-cost mesoporous geopolymer for dye waste removal

Evi Fitriani and Aprilina Purbasari

+ Open abstract  View article  PDF

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



OPEN ACCESS

012003

Composite of amorphous silica encapsulated urea as a slow-release fertilizer

M Idris, Sutarno and B Rusdiarso

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012004

Study of waste tyre granulates and polypropylene (PP) fibre as oil sorbent

Nik Khairul Irfan Nik Ab Lah, Muhammad Naquiddin Zahid, Mohd Fazril Irfan Ahmad Fuad,
Tengku Amran Tengku Mohd and Nur Shuhadah Japperi

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012005

Effect of NaOH Concentration in Alkaline Treatment Process for Producing Nano Crystal Cellulose-Based Biosorbent for Methylene Blue

Mega Mustikaningrum, Rochim Bakti Cahyono and Ahmad T. Yuliansyah

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012006

Adsorptive removal of methylene blue from aqueous solution onto koh-activated carbons derived from saba banana (*m. Acuminata balbisiana*) peel

Ade Wahyu Y P Parmita, Ansita F B Hartanti, Lusi Ernawati, romeda Dwi Laksono, M Iskandar Zulkarnain and
Febryela Alda Fadila

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012007

Fabrication of magnetic activated carbon from spent coffee ground by hydrothermal synthesis for methylene blue removal

M F Rizkiana, Hidayatullah, A Rosalina, B A Fachri and H Harada

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012008

Prediction of continuous adsorption performance of cellulose acetate butyrate/poly(L-lactid acid) composite beads for dye removal

Muhammad Naufal Fatkhi Rofaudin, Azizul Pradna Qoidani, Desy Puspitasari, Helmi Kurnia Arnanda,
Hikmatun Ni'mah, Achmad Roesyadi, Firman Kurniawansyah and Eva Oktavia Ningrum

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012009

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



OPEN ACCESS

012023

Fabrication and application of ZnO-Ag nanocomposite materials prepared by gas-phase methods

K Kusdianto, T D Sari, M A Laksono, S Madhania and S Winardi

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012024

ZnO-TiO₂ nanocomposite materials: fabrication and its applications

K Kusdianto, D F Nugraha, A Sekarnusa, S Madhania, S Machmudah and S Winardi

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012025

Fabrication of High Performance PSf-rGO/TiO₂ UF Membrane for Ruberry Wastewater Treatment

T.D. Kusworo and Lutfi Mia Wulandari

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012026

The Effect of Natural Rubber Composite using Monomer Diene Ethylene Propylene on Mechanical Properties in Tubes Collar

Nasruddin and Sri Agustini

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012027

Synthesis and characterization of mesoporous silica from beach sands as silica source

S Salamah, W Trisunaryanti, I Kartini and S Purwono

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012028

An overview on antibiofouling agent from carica seeds waste as antifoulant coating

Ni Kadek Adnya Kusuma Sari, Sadam Arrois, Tiara Amelia Gunawan and Dessy Ariyanti

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012029

Enhancement of strength and flexibility of high-density polyethylene using rubber leaves

Norin Zamiah Kassim Shaari, Nurfatheen Abd Rahman, Ahmad Redha Taha, Sakinah Mohd Alauddin and Suffiyana Akhbar

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our privacy and Cookies policy.

[+ Open abstract](#)
[View article](#)
[PDF](#)


OPEN ACCESS

012077

Study Recycling Effluents of Hospital WWTP with Reverse Osmosis

V Rochmah and I N Widiassa

[+ Open abstract](#)[View article](#)[PDF](#)**OPEN ACCESS**

012078

Disposal of Waste Communal in Region of Flow River on Settlement Solid Population

Yenita Sandra Sari, Didi Dwi Anggoro, Henna Rya Sunoko and Cenap Ozel

[+ Open abstract](#)[View article](#)[PDF](#)**OPEN ACCESS**

012079

Production of biodegradable plastics using aking rice starch and chitosan from crab shells as a substitute for conventional plastic

N Sasria, R Hernando, M P D Lubis and A Zulfikar

[+ Open abstract](#)[View article](#)[PDF](#)**OPEN ACCESS**

012080

A Comprehensive Review on Hazard Analysis and Critical Point (HACCP): A Case of Lumpia Semarang

Suherman Suherman, Misbahudin Alhanif, Dwi Purwati, Farida Diyah Hapsari, Teodora Dasilva and Omar Ali Mohammed

[+ Open abstract](#)[View article](#)[PDF](#)**OPEN ACCESS**

012081

Review on hazard analysis and critical control point (HACCP) in the dairy product: Cheese

S Suherman, A A Janitra, K N S Budhiary, W Z Pratiwi and F A Idris

[+ Open abstract](#)[View article](#)[PDF](#)**OPEN ACCESS**

012082

Characteristics of Biodegradable Foam (Bio-foam) Made from Cassava Flour and Corn Fiber

S Sumardiono, I Pudjihastuti, R Amalia and Y A Yudanto

[+ Open abstract](#)[View article](#)[PDF](#)**OPEN ACCESS**

012083

Analysis of Red Colorants and Heavy Metals in Lipstick at Traditional Market in Surabaya

R Sumiyani, I K C Diatmika, N H Muslimah and O Rachmaniah

[+ Open abstract](#)[View article](#)[PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



OPEN ACCESS

012097

Pretreatment of Tropical Lignocellulosic Biomass for Industrial Biofuel Production : A Review

A H Rahardjo, R M Azmi, M Muharja, H W Aparamarta and A Widjaja

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012098

Study on Making a Prototype Dye Sensitized Solar Cell (DSSC) as an Alternative Electric Energy Source

Setia Budi Sasongko, Diana Novasari, Dzillan Hidayat Ramadhan, Muthi'ah Nur Fadlilah and Wahyu Zuli Pratiwi

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012099

Development of Natural Gas Infrastructure to Enhance National Energy Security in Indonesia

Agus Sugiyono and Adiarso

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012100

The Role of Failure Analysis on Maintaining Reliability of Oil Refinery for Sustainable Development Goals

A Suhadi, E Febriyanti and L N Sari

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012101

Catalytic co-pyrolysis palm oil empty fruit bunch and low-density polyethylene of plastic waste into high grade bio-oil

Sunarno, Zultiniar, A H Santoso and P S Utama

[+ Open abstract](#)
[View article](#)
[PDF](#)
Heat, Mass and Momentum Transfer**OPEN ACCESS**

012102

The Effect of Temperature on Vermicelli Drying under Dehumidified Air

S.B. Sasongko, B. P. Rini, H. Machiroh, F.D. Utari and M. Djaeni

[+ Open abstract](#)
[View article](#)
[PDF](#)
OPEN ACCESS

012103

The Effect of Air Temperature on Drying Rate of Red Cayenne Peppers. To find out more, see our Privacy and Cookies policy.



[+ Open abstract](#)[View article](#)[PDF](#)

Thermodynamics

OPEN ACCESS

012137

Vapor-liquid equilibria for binary and ternary systems composed of acetone, 1-butanol, and ethanol at atmospheric pressure

A F N W Adi, T G Wulanndari, A Wiguno and K Kuswandi

[+ Open abstract](#)[View article](#)[PDF](#)

OPEN ACCESS

012138

Liquid/liquid equilibrium data measurement of iso-butanol + diethyl carbonate + water ternary system at 303.15 - 313.15 K and atmospheric pressure

R Tetrisyanda, A Wiguno, Kuswandi and G Wibawa

[+ Open abstract](#)[View article](#)[PDF](#)

OPEN ACCESS

012139

Thermodynamics and Kinetics Study of Diethyl Carbonate (DEC) Synthesis from CO₂, Ethanol, and Epoxides with Various Catalysts

A Wiguno, R Tetrisyanda, L A Anggerta, K D R Liemen, S W Rahma and G Wibawa

[+ Open abstract](#)[View article](#)[PDF](#)

JOURNAL LINKS

[Journal home](#)

[Information for organizers](#)

[Information for authors](#)

[Search for published proceedings](#)

[Contact us](#)

[Reprint services from Curran Associates](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



The Effect of Temperature on Vermicelli Drying under Dehumidified Air

S.B. Sasongko, B. P. Rini, H. Machiroh, F.D. Utari and M. Djaeni*

Department of Chemical Engineering, Diponegoro University
Prof. H. Soedarto, SH Street, Tembalang, Semarang, 50275, **Indonesia**

*Corresponding author: moh.djaeni@live.undip.ac.id

Abstract. Vermicelli, called Sohun, is a white noodle made of arenga starch. The vermicelli is commonly produced by small to medium enterprises. The process consists of mixing starch with hot water forming gel, forming the vermicelli noodle, drying, and packaging. Vermicelli drying is an important part, since it influences the product quality. Currently, the drying was simply done under sunlight. The drawback of the process is weather dependency both quality and continuity. The convective dryer with air dehumidification can be an option to substitute sunlight dryer. In this case, the air as drying medium was passed to adsorbent for reducing the absolute humidity. The dry air was then heated up to certain drying temperature. The research studied the effect of air temperature varied from 313.15 – 353.15 K on vermicelli drying. As a response, the moisture content in vermicelli was observed and thermal efficiency was estimated. Results showed that after 60 minutes drying under 353.15 K, the moisture content in vermicelli can reach below 14.0% and thermal efficiency was about 54%. The dry vermicelli also had good swelling capacity. Upper 353.15 K, the drying is not recommended since it probably reduces the vermicelli quality.

Keywords : vermicelli; drying; thermal efficiency; tray dryer; air dehumidification

1. Introduction

Noodle industries has been widely developed in Indonesia. The product uses imported wheat flour as a main raw material. The variation of raw material becomes important issue to substitute wheat flour in order to reduce imported material dependency as well as utilizing local flour such as arenga starch, cassava starch, or rice flour. Generally, the noodles were classified as two types namely wet and dry noodles [1].

Vermicelli called as ‘Sohun’, is a dry white noodle made of arenga starch. Arenga starch is isolated from wood of a palm tree called arenga. The wood of arenga tree is milled and extracted by water. The starch suspended in water is separated filtration and the remaining wood fiber is disposed. The suspension is then decanted to find the arenga starch. The advantages of arenga starch is able to form elastic gel in which can form the long noodle. The quality of vermicelli is significantly influenced by composition and quality of raw material. The high quality of vermicelli is resulted from suitable raw material with proper viscosity during the heating [2]. Arenga starch contains amylase about 24% and amylopectin rounding 76% [3]. The higher amylopectin, the affinity to the water is higher [4].

The vermicelli is commonly produced in four steps that include gelatinization with water, noodle formation, drying, and packaging. The drying is a method to remove water from wet vermicelli by introduction of heat. The drying is important to prolong storage life of vermicelli (white noodle) before used as well as inhibiting microorganism activities [5]. The water content affects the storage



Enhancement of strength and flexibility of high-density polyethylene using rubber leaves

Norin Zamiah Kassim Shaari¹, Nurfatheen Abd Rahman, Ahmad Redha Taha, Sakinah Mohd Alauddin, Suffiyana Akhbar

Department of Chemical and Process, Faculty of Chemical Engineering, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, **MALAYSIA**

E-mail: norinzamiah@uitm.edu.my¹

Abstract. High density polyethylene (HDPE) polymer suffers with lack of strength and flexibility that result in fracture of vessels and leakage of piping system. One way to overcome the brittleness problem of the polymer is by reinforcement of fillers such as fibers into the polymer matrix to form a polymer composite. In this study, the effect of incorporating rubber leaves as the filler into high density polyethylene (HDPE) polymer matrix on the tensile properties and morphology of the polymer composite was investigated. The composites were prepared with or without addition of glycerol as plasticizer and citric acid as cross linker. Despite using a common size of the filler, the sieve sizes of the rubber leaves were varied at 200 μ m, 300 μ m and 500 μ m respectively. Results show that the presence of 200 μ m rubber leaves with glycerol and citric acid increased the strength of the polymer composites, where the tensile strength achieves 22.1 MPa without jeopardizing the elongation of the composite. The image from SEM reveals that rubber leaves fibers and plasticizers are dispersed homogeneously in the polymer matrix HDPE. This potential used of rubber leaves in the manufacturing of HDPE polymer composites will help to utilize the abundant amount of rubber leaves.

1. Introduction

There are two type of polymers derived from polyethylene which are low-density polyethylene (LDPE) and high-density polyethylene (HDPE). Both of these have different properties and being used in different applications LDPE is produced by free radical polymerization at high pressure about 1000 atm and high temperature of 200°C. HDPE is obtained using Ziegler-Natta catalysis at pressure less than 100 atm and temperature below 100°C. As compared to LDPE, which is more flexible, softer and can melt at a lower temperature, HDPE is harder, has high chemical resistance and can withstand high temperatures [1]. Therefore, HDPE is the most commonly used material for the pipe system, toys, shampoo bottles as an insulator in electrical appliances and chemical containers due to its high quality, highly versatile and affordability [2]. The HDPE density is higher than LDPE with longer chain branching. This chain branching provides HDPE for its stronger tensile strength and intermolecular forces compared to LDPE [3]. However, HDPE still suffers with lack in toughness, strength and flexibility, which has resulted in the fracture and leakage of the storage tank and piping used in the chemical industries. This phenomenon is due to crack can grow rapidly in a brittle manner for large-scale HDPE products like polyethylene pipe, where this type of fracture is known to be in the plane-strain condition, which has much lower toughness than that in the plane-stress condition [4].

The toughness can be described as a property of a material that has an ability to absorb and distribute relatively huge amount of energy of repeated impacts before it cracks or fractures by deformation. A polymer that has low toughness is called brittle materials. For instance, ceramic has



Disposal of Waste Communal in Region of Flow River on Settlement Solid Population

Yenita Sandra Sari¹, Didi Dwi Anggoro², Henna Rya Sunoko³, and Cenap Ozel⁴

¹Doctoral Program of Environmental Science, School of Postgraduate Studies, Universitas Diponegoro, Semarang, Central Java, 50241, Indonesia

²Department of Chemical Engineering, Faculty Engineering, Universitas Diponegoro, Semarang, Central Java, 50275, Indonesia

³Faculty of Medicine, Universitas Diponegoro, Semarang, Central Java, 50241, Indonesia

⁴Department of Mathematics, King Abdulaziz University, 21689, Jeddah **KSA**

Email: yenitasandra@gmail.com

Abstract. Changes that occur in housing development will change the zone that should be green open space its function to become a dense residential area. The purpose of this research is to find out how the physical condition of the toilet facilities sanitation development program for the community by the Bandung City government, such as what is the domestic waste disposal system residents, as well as to conclude how much community involvement in protecting the watersheds around the facility is also a communal toilet facility. The parameters used are the physical condition of the toilet, the existence of a septic tank, the use of a watershed, and the level of concern of the community using communal toilet facilities. This research is expected to be an evaluation material for the construction of community sanitation facilities in densely populated areas. In densely populated cities need public toilets. However, due to the lack of community participation, the condition of the facilities became damaged, dirty, and not maintained. The facility has become unsuitable for sanitation; squad latrine models are more widely used. The septic tank, which is supposed to be a waste collection facility, turns out that most domestic waste is discharged into the river through pipes. This is very unhealthy, causing pollution in watersheds. To make a government policy made that disposing of household waste from public toilets with pipes is prohibited because it causes the effects of river basin pollution, posing public health risks.

Keyword: Toilet; Sanitation; Bandung

1. Introduction

Urban residents have various characters in society. Daily activities also have various patterns and habits. The sanitation sector synergies in policy implementation [1]. Health as the basis for improving the quality of life [2], Indonesia with a high population growth rate of 1.2% per year is a high population country [3][4][5] the importance of planning as well as implementing solutions for domestic waste management [6]. The increase in population in the use of latrines occurs inequality so that adequate coverage of facilities is needed [7] and sanitation interventions have an impact not only



Content from this work may be used under the terms of the [Creative Commons Attribution 3.0 licence](https://creativecommons.org/licenses/by/3.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

Fabrication of magnetic activated carbon from spent coffee ground by hydrothermal synthesis for methylene blue removal

M F Rizkiana^{1,3}, Hidayatullah¹, A Rosalina¹, B A Fachri¹ and H Harada²

¹ Department of Chemical Engineering, Faculty of Engineering, University of Jember, Jember, East Java, 68121, Indonesia

² Department of Environmental Science, Prefectural University of Hiroshima, Shobara, Hiroshima, Japan

E-mail : metafitririzkiana@unej.ac.id

Abstract. Spent coffee ground-based magnetic activated carbon (MSC) was prepared using hydrothermal synthesis and utilized for the adsorption of methylene blue (MB). The MSC was made using the following conditions: the molar ratio of ferrous/ferric ions was 1:1.5, the hydrothermal treatment at 126°C for 2 h. The prepared MSC was investigated for surface morphology and chemical structure using FTIR and SEM. Batch adsorption studies were performed at 308 K; 318 K and MB concentration of 50-400 mg L⁻¹ to evaluate the adsorption behaviour. The results showed as follows: there were C=O, C=C, C-O, Fe-O groups on the MSC surface and magnetite existed in the pores and surfaces of the MSC. Sorption behaviour at different temperatures were evaluated using the Langmuir, Freundlich, Temkin models, confirming Freundlich model was fitted on MSC. First and second order kinetic models were tested and the data fitted the first order behaviour. The adsorption process was a spontaneous, endothermic, and more reactive upon raising the temperature. After adsorption, MSC could be separated by applying magnetic field. Magnetic removal would allow convenient tool for adsorbent separation from contaminated water.

1. Introduction

In recent years, depletion of freshwater resources has become a global attention worldwide. Water pollution produced by industrial manufacturers or daily activities, is a serious threat to the environment and public health. The presence of synthetic dyes in water resources are generated by many industrial applications such as textile, leather, paper, and cosmetic industries [1]. It is estimated that approximately 10,000 tons per year of synthetic dyes with 100,000 different dyes are produced and used worldwide annually [2] and about 10-15% of these dyes are discharged into the environment without proper treatments [3]. With the increasing depletion of freshwater, it is significant to control water pollution and protect water resources.

Wastewater must ensure fulfill the standard requirement from government before discharged into the environment. Among various methods available, adsorption is more preferable due to its ease of operation and cost effectiveness [4]. Activated carbon provides inexpensive and attractive option for treating wastewater. Its adsorption capacity was influenced by activated carbon pore volume, pore

