

DAFTAR PUSTAKA

- Abechi S.E., Glimba C.E, Uzairu A, Dallatu Y.A. (2013), “Preparation and Characterization of Activated Carbon from Palm Kernel Shell by Chemical”, *Journal Material Science and Engineering*, Volume 3, Nomor 7, Halaman 54-61.
- Achmad R, (2004), *Kimia Lingkungan*, Yogyakarta, ANDI
- Agbozu, I.E. and F.O. Emoruwa, (2014), “Batch Adsorption of Heavy Metals (Cu, Pb, Fe,Cr and Cd) from Aqueous Solution Using Coconut Husk”, *Academic Journals : African Journal of Environmental Science and Technology*, Volume 8, Nomor 4.
- Aljeboree, Aseel M., Abbas N. Alshirfi, Ayad F. Alkaim, (2014), “Kinetics And Equilibrium Study For The Adsorption Of Textile Dyes On Coconut Shell Activated Carbon”, *Arabian Journal of Chemistry*, Volume 10, Halaman S3381-S3393.
- Andini, Ary, (2018), “Analisa Kadar Fe (III) Air di Kecamatan Tanggulangin Sidoarjo”, *Medical Technology and Public Health Journal*, Volume 2, Halaman 1.
- Angin, D., (2014), “Production and characterization of activated carbon from sour cherry stones by zinc chloride”, *Fuel*, 115, 804–811.
- Arami, Mokhtar. (2015), “Adsorption of Textile Dyes on Pine Cone from Colored Wastewater”. Elsevier B.V.
- Arief, Latar Muhammad. (2016). *Pengolahan Limbah Industri: Dasar-dasar Pengetahuan dan Aplikasi di Tempat Kerja*. Yogyakarta. ANDI OFFSET
- Arneli, Z F Safitri, A W Pangestika, F Fauziah, V N Wahyuningrum and Y Astuti, (2007), “The Influence of Activating Agents on The Performance of Rice Husk-Based Carbon for Sodium Lauryl Sulfate and Chrome (Cr) Metal Adsorptions”, *Journal Materials Science and Engineering*, 172 & 012007.
- Ash-shiddiqi, M. (2006). *Pohon Siwalan*. Retrieved Desember 12, 2014, from http://www.pohon_siwalan.com
- Bansode, R.R. J.N. Losso, W.E. Marshall, R.M. Rao, R.J. Portier, (2013), “Adsorption of Metal Ions by Pecan Shell-Based Granular Activated

- Carbons”, *Food Science Building*, Department of Food Science, Louisiana State University Agricultural Center, Halaman 115-119.
- Batohala, Loth, (2019). *Perbandingan Efektivitas Daya Adsorpsi Sekam Padi dan Cangkang Kemiri Terhadap Logam Besi (Fe) pada Air Sumur Gali*. Yogyakarta. DEEPUBLISH
- Badan Standardisasi Nasional. (1995). *Standar Nasional Indonesia. SNI 06-3730 1995. Karbon Aktif*. Badan Standardisasi Nasional. Jakarta.
- Badan Pusat Statistik Jakarta Pusat , (2016). *Pendataan Sosial Ekonomi Tahun 2016*. Jakarta Pusat : Badan Pusat Statistik
- Baksi, Soumitra Biswas & S Mahajan. (2006). *Activated Carbon from Bamboo Technology Development towards Commercialisation*. BAMTECH-2003. Guwahati, India.
- Bambang Tejokusumo. (2007). *Limbah Cair industri Serta Dampaknya Terhadap Kualitas Air Tanah Dangkal di Desa Gumpang Kecamatan Kartasura*. Laporan Skripsi. Universitas Sebelas Maret
- Barroso-Bogeat, A., Alexandre-Franco, M., Fernandez-Gonzalez, C., Macias Garcia A. dan Gomez-Serranoa, V, (2014). ‘Electrical Conductivity of Activated Carbon-metal Oxide Nanocomposites under compression: a comparison study’. *Physical Chemistry Chemical Physics*.
- Budi, Esmar, Umiatin, Hadi Nasbey, Ridho Akbar Bintoro, Futri Wulandari, and Erlina, (2016), “Activated Coconut Shell Charcoal Carbon Using Chemical-Physical Activation”, *AIP Conference Proceedings*, Volume 1712, Nomor 050003.
- D. Sathya Priya dan M.V. Sureskhumar, (2019), “Systhesis of Borassus flabellifer Fruit Husk Activated Carbon Filter For Phenol Removal Frow Wastewater”, *International Journal of Enviromental Science and Technology*, Volume 17, Nomor 1.
- Dewati, Retno. (2010). “Kinetika Reaksi Pembuatan Asam Oksalat dari Sabut Siwalan dengan Oksidator H_2O_2 ”. *Jurnal Penelitian Ilmu Teknik*, Vol. 10, No. 1, Juni 2010: 29-37.
- Dewi, I.K. (2009). “Efektivitas Pemberian Bloteng Kering Terhadap Pertumbuhan Jamur Tiram Putih (*Pleurotus ostreatus*) pada Media Serbuk Kayu”. *Skripsi*

Universitas Muhammadiyah Surakarta.

- Dhidan, K. Samar. (2012). “*Removal of Phenolic Compounds from Aqueous Solution by Adsorption on to Activated Carbons Prepared from Date Stones by Chemical Activation with FeCl₃*”. Chemical Engineering Department College Of Engineering-University Of Baghdad-Iraq.
- Esty Rahmawati dan Leny Yuanita, (2013), “Adsorpsi Pb²⁺ Oleh Arang Aktif Sabut Siwalan (*Borassus flabellifer*)”, *Journal of chemistry*, Volume 2, Nomor 3.
- Freedonia Group. (2012). *World Activated Carbon Industry Study with Iforezasts for 2016 & 2021*.
- Gandjar, I.G., dan Rohman, A. (2018). *Kimia Farmasi Analisis*. Yogyakarta: Pustaka Pelajar. Hal. 419, 425.
- Giyatmi, dkk. (2008). *Penurunan Kadar Cu, Cr, dan Ag dalam Limbah Cair Industri Perak di Kotagede Setelah Diadsorpsi dengan Tanah Liat dari Daerah Godean*. Yogyakarta
- Guritno, M.K.B. T. Panyathanmaporn, R.A. Chumanklang, N.Sirinuntawittaya, A. Dutta, (2007), “Production of Activated Carbon From Coconut Shell: Optimization Using Response Surface Methodology”, *Science Direct*, Volume 99, Halaman 487-489.
- Hambali, Erliza, Soejanto. (2007). *Jarak Pagar, Tanaman Penghasil Biodiesel*. Jakarta: Penebar Swadaya.
- Heriono dan Rusmini, (2015), “Pemanfaatan Sabut Siwalan Untuk Pembuatan Karbon Aktif Sebagai Adsorben Limbah Pewarna Industri Batik”, *Jurnal Sains & Matematika*, Volume 4, Nomor 1
- Hindryawati, Dr. Noor. (2020). *Fotokatalisis dalam Pengolahan Limbah Tekstil*. Yogyakarta. DEEPUBLISH
- Hirunpraditkoon, Samoon, Nathapom Tunthong, Anotai Ruangchai, and Kamchai Nuithitkul, (2011), “Adsorption Capacities of Activated Carbons Prepared From Bamboo by KOH Activation”, *Journal of Chemical and Molecular Engineering*, Volume 5, Nomor 6.
- Ibrahim, M.Hanif. 2018. *Test Stability of Naturan Color Dyes from The Lether Fruit of Palm's Waste*. Semarang. American Scientific Publisher

- Indhu S, Muthukumaran K. (2018), "Removal And Recovery Of Reactive Yellow 84 Dye From Wastewater And Regeneration Of Functionalised Borassus Flabellifer Activated Carbon", *Journal Environmental Chemical Engineering*, Nomor S22133437(18)30204-5.
- Khuluk, Rifki Husnul, Ali Rahmat, Buhani, and Suharso, (2019), "Removal of Methylene Blue by Adsorption onto Activated Carbon From Coconut Shell (*Cocous Nucifera L.*)", *Indonesian Journal of Science & Technology*, Volume 4, Nomor 2, Halaman 229-240.
- Kumar, Arvind, Hara Mohan Jena, (2016), "Preparation and Characterization of High Surface Area Activated Carbon from Fox Nut (*Euryale Ferox*) Shell by Chemical Activation with H_3PO_4 ", *Journal elsevier*, Nomor 6, Halaman 651-658.
- Kurniawan, I Ketut Gede Intan dan J.P. Gentur Sutapa, (2019), "Manufacture and Use of Activated Charcoal from Lontar Fruit shells (Borassus Flabellifer Linn.) As Batik Wood Waste Adsorbents", *Jurnal Teknologi Hasil Hutan* Fakultas Kehutanan.
- Kinoshita, (2001). *Electro chemical uses of carbon Di dalam Electrochemistry Encyclopedia*. <http://electrochem.cwru.edu/ed/encycl/htm> 10 Mei 2008.
- Koto, Indra, dkk. 2019. *Moful Bioarang Organik Energi Alternatif*. Yayasan Kita Menulis
- Laksono, S. (2012). *Pengolahan Biologis Limbah Batik Dengan Media Biofilter.[Skripsi Ilmiah]*. Depok: Fakultas Teknik Universitas Indonesia
- Lano, Lans Asideo, Mellissa E. S. Ledo, Merpiseldin Nitsae, (2020), "Activated Charcoal from Siwalan Shell (Borassus flabellifer L.) with Potassium Hydroxide", *Jurnal Ilmiah Ilmu-ilmu Hayati*, Volume 5, Nomor 1, Halaman 8-15.
- Liou, T. H., (2010), "Development of mesoporous structure and high adsorption capacity of biomass-based activated carbon by phosphoric acid and zinc chloride activation", *Chemical Engineering Journal*, 158(2), 129-142
- Lowell, S, dkk, (2004), *Characterization of Porous Solids and Powders: Surface Area, Pore Size and Density*, Kluwer Academic Publishers, London
- Machida, Motoi, Masami Aikawa, Hideki Tatsumoto, (2005), "Prediction of

- Simulation Adsorption of Cu(II) and Pb(II) onto Activated Carbon by Conventional Langmuir Type Equations”, *Journal of Hazardous Material*, Halaman 271-275.
- Marzuki, Asnah. (2012). *Kimia Analisis Farmasi*. Makassar : Dua Satu Press
- Mattel, C.L, (1991), *Adsorption 2rd Edition*, McGraw-Hill Company Inc, New York
- McCabe, W., Smith, J.C., and Harriot, P., (1999), “*Unit Operation of Chemical Engineering*”, McGraw Hill Book, Co., United States of America
- MSDS. LabChem. <http://www.labchem.com> - Diakses Oktober 2020.
- Nasri, dkk. (2017), *Ekologi Pemanfaatan dan Sosial Budaya Lontar sebagai Flora Identitas Sulawesi Selatan*. Teknis EBONI, nomor 1 hal 47-60
- Olowoyo D. N. and Orere E. E. (2012), “Preparation and Characterization of Activated Carbon Made From Palm- Kernel Shell, Coconut Shell, Groundnut Shell and Obeche Wood (Investigation of Apparent Density, Total Ash Content, Moisture Content, Particle Size Distribution Parameters”, *International Journal of Research in Chemistry and Environment*, Volume 2, Halaman 32-35
- Patil, Chandrashekhar S., Abhhijit N. Kadam, Datta B. Gunjal, Vaibhav M. Naik, Sang-Wha Lee, Govind B. Kolekar, Anil H. Gore. (2020), “Sugarcane Molasses Derived Carbon Sheet Sea Sand Composite For Direct Removal Of Methylene Blue From Textile Wastewater: Industrial Wastewater Remediation Through Sustainable, Greener, And Scalable Methodology”, *Journal Separation And Purification Technology*, Volume 247.
- Peraturan Menteri Lingkungan Hidup, 2019. Diakses pada Oktober 2020
- Prabarini, N. (2013). *Pemanfaatan Tempurung Kemiri sebagai Bahan Karbon Aktif dalam Penyisihan Logam Besi (Fe) pada Air Sumur*. Universitas Pembangunan Nasional “Veteran” Jawa Timur. Surabaya
- Prahas, Devarly, Y. Kartika, N. Indraswati, S. Ismadji, (2007), “Activated Carbon From Jackfruit Peel Waste by H₃PO₄ Chemical Activation: Pore Structure And Surface Chemistry Characterization”, *Chemical Engineering Journal, Elsevier*, Volume 140, Halaman 32-42.
- Prasetya, Fandi Angga, Ufafa Anggarini, Salim Mustofa, Syarifatus Sholihah,

- Fathur Iqbal Hanafi, Dode Bara Septyan, (2019), "Synthesis and Characterization of Reduced Graphene Oxide from Fibers of Borassus Flabellifer by Activation Method", *Jurnal Fisika Flux*, Volume 16, Nomor 1
- Prasetyo, Y. (2011). "Scanning Electron Microscope (SEM) dan Optical Emission Spectroscopy(OES)". *Chemical Engineering Journal*.
- Purnama, (2004). "Adsorpsi Limbah Tekstil Sintesis dengan Jerami Padi Surakarta". *Jurnal Teknik Gelagar*, Vol.15 No.1.
- Rahmawati, Esty. (2013). *Adsorbsi Pb²⁺ Oleh Arang Aktif Sabut Siwalan (Borassus flabellifer)*. Surabaya. Universitas Negeri Surabaya
- Rai, M.K. G. Shahi, V. Meena, R. Meena, S. Chakraborty, R.S. Singh, B.N. Rai, (2016), "Removal Of Hexavalent Chromium Cr (VI) Using Activated Carbon Prepared From Mango Kernel Activated With H₃PO₄", *Journal Research Efficient Technologies*, Volume 2, Halaman S63 – S70.
- Rampe, Meytij Jeanne, Vistarani Arinni Tiwow, (2018), "Fabrication and Characterization of Activated Carbon from Charcoal Coconut Shell Minahasa, Indonesia", *IOP Conf. Series: Journal of Physic: Conf. Series* 1028, Nomor 10.188/17426596/1028/1/012033
- Retno, (2010). "Kinetika Reaksi Pembuatan Asam Oksalat dari Sabut Siwalan dengan Oksidator H₂O". *Jurnal Penelitian Ilmu Teknik*, Vol. 10, No. 1, Surabaya Jawa Timur.
- Rosa D.S.P., dan Yuda Z. (2019), *Sintesa dan Karakterisasi Elektroda Superkapasitor Berbahan Sabut Siwalan (Borassus Flabellifer)*, Skripsi Sarjana, Universitas Internasional Semen Indonesia, Gresik, Jawa Timur.
- Saptati Dwi, (2018). *Perlakuan Fisiko Limbah Cair Industri*. Malang, UB press.
- Sastrawidana, I. D. (2012). "Studi Perombakan Zat Warna Tekstil Remazol Red RB Secara Aerob Menggunakan Bakteri Enterobacter aerogenes yang Diisolasi dari Lumpur Limbah Tekstil". *Journal of Chemistry*.
- Sembiring, M. dan Sinaga, T. (2003). *Arang Aktif (Pengenalan dan Proses Pembuatannya)*. Medan: Universitas Sumatera Utara
- Shahrokh, M. (2000). *The Institutional Environment of Financial Reporting Regulation in ASEAN*. Elsevier Inc.

- Shorky, Hassan, Marwa Elkady, Hesham Hamad. (2019), "Nano Activated Carbon From Industrial Mine Coal As Adsorbents for Removal Of Dye From Simulated Textile Wastewater: Operational Parameter And Mechanism Study", *Journal Of Material Research And Technology*, Volume 8 , Nomor 5, Halaman 4477-4488
- Sibilia, John P, (1996), *A Guide to Materials Characterization and Chemical Analysis 2nd Edition*, Willey-VCH, Singapura.
- Siboro, P.A. (2016). *Arang Aktif*. Yogyakarta. DEEPUBLISH
- Sivachidambaram, M., J. Judith Vijaya, L. John Kennedy, R. Jothiramalingam, Hamad A. Al Lohedan, Murugan A. Munusamy, E. Elanthamilane and J. Princy Merline. (2017), "Preparation and Characterization of Activated Carbon Derived from The Borassus Flabellifer Flower As An Electrode Material for Supercapacitor Applications", *Royal Society of Chemistry try and the Centre National de la Recherche Scientifique*, Volume 41, Halaman 3939-3049
- Slamet. (2005). *Pengolahan Limbah Organik (Fenol) dan Logam Berat (Cr⁶⁺ atau Pt⁴⁺) Secara Simultan dengan Fotokatalis TiO₂,ZnO-TiO₂, dan CdS-TiO₂*, Universitas Indonesia. Jakarta. Makara. Teknologi. 9, (2): 66-71.
- Sulistyorini, Lilik Dwi, Musthofa Lutfi, Sandra Malin Sutan, (2015), "Utilization of Siwalan Skin (Borassus Flabellifer) As Biochar With The Influence Of HCl Concentration and Immersion Duration On the Activation Process", *Jurnal Bioproses Komoditas Tropis*, Volume 3, Nomor 2.
- Supraptini. (2002). *Pengaruh Limbah Industri terhadap Lingkungan di Indonesia*. Media Penelitian dan Pengembangan Kesehatan, 12(2). ISSN 0853-9987
- Tambunan, Perlindungan. (2009). *Pusat Penelitian dan Pengembangan Hutan Tanaman. Potensi dan Kebijakan Pengembangan Lontar Untuk Menambah Pendapatan Penduduk*, 3-7
- Thomas, Merlin, Sagar P. Patel, Ankit V. Patel, Jigar V. Patel, (2017), "A Comparative Study On The Efficiency Of KOH and H₃PO₄ Impregnated Jackfruit Leaf Based Carbon As Adsorbent For Removal Of Cr (VI) From Its Aqueous Solution", *International Journal of Engineering Trends and Technology (IJETT)*, Volume 45, Nomor 4

- Woodard, Frank. (2001). *Industrial Waste Treatment Handbook*. Butterworth Heinemann. Woburn
- Wongsowijaya, Ir. H. Suyadi. (2017). *Manfaat Tanaman Kelapa, Aren, Pinang dan Siwalan Bagi Kesehatan*. Yogyakarta. PT Leutika Nouvaliter
- Wunas, Yeanny dan Susanti. 2011. *Analisa Kimia Farmasi Kuantitatif*. Makassar : Laboratorium Kimia Farmasi Fakultas Farmasi UNHAS
- Xu, Zhihua, Zhenhua Sun, Yuwei Zhou, Weifang Chen, Tianqi Zhang, Yuanxing Huang, Daofang Zhang. (2019), “Insights Into The Pyrolysis Behavior And Adsorption Properties Of Activated Carbon From Waste Cotton Textiles By FeCl₃ Activation”, *Journal Colloids And Surfaces A*, Volume 582.
- Yahya, S. (2013). “Bio-template Synthesis of Silika-Ruthenium Catalyst of Benzylation of Toluene”. *Journal of Physical Science*. Vol. 24. No. 1. Pp. 29-35.
- Yang, J. dan Qiu K., (2018), “Experimental Design To Optimize the Preparation of Activated Carbons from Herb Residues by Vacuum and Traditional ZnCl₂”, *Chemical Activation, Ind. Eng. Chem. Res.*, 50(7), 4057–4064
- Zille, A. (2005). *Laccase Reaction for Textile Application I, Disertasi. Textile* Department Universidade do Minho, Portugal