

DAFTAR PUSTAKA

- Abhishek, A., Dwivedi, A., Tandan, N., & Kumar, U. (2017). Comparative Bacterial Degradation and Detoxification of Model and Kraft Lignin from Pulp Paper Wastewater and Its Metabolites. *Applied Water Science*, 7(2), 757-767.
- Al-Shannag, M., Al-Qodah, Z., Bani-Melhem, K., Qtaishat, M. R., & Alkasrawi, M. (2015). Heavy Metal Ions Removal from Metal Plating Wastewater Using Electrocoagulation: Kinetic Study and Process Performance. *Chemical Engineering Journal*, 260, 749-756.
- Al-Shannag, M., Lafi, W., Bani-Melhem, K., Gharagheer, F., & Dhaimat, O. (2012). Reduction of COD and TSS from Paper Industries Wastewater Using Electro-Coagulation and Chemical Coagulation. *Separation Science and Technology*, 47(5), 700-708.
- Antara, N. T., Hardiani, H., Setiawan, Y., Soetopo, R. S., Sugesty, S., Purwati, S., Kardianyah, T. (2011). *Pedoman Pemetaan Teknologi Untuk Industri Pulp & Kertas*.
- Aoudj, S., Khelifa, A., Drouiche, N., Hecini, M., & Hamitouche, H. (2010). Electrocoagulation Process Applied to Wastewater Containing Dyes from Textile Industry. *Chemical Engineering and Processing: Process Intensification*, 49(11), 1176-1182.
- Arimi, M. M. (2017). Integration of Fenton with Biological and Physical-Chemical Methods in the Treatment of Complex Effluents: A Review. *Environmental Technology Reviews*, 6(1), 156-173.
- Azadi Aghdam, M., Kariminia, H. R., & Safari, S. (2016). Removal of Lignin, COD, and Color from Pulp and Paper Wastewater Using Electrocoagulation. *Desalination and Water Treatment*, 57(21), 9698-9704.
- Balakshin, M., Capanema, E., & Berlin, A. (2014). Isolation and Analysis of Lignin-Carbohydrate Complexes Preparations with Traditional and Advanced Methods: A Review. *Studies in Natural Products Chemistry* (1st ed., Vol. 42, pp. 83-115). Elsevier B.V. <http://doi.org/10.1016/B978-0-444-63281-4.00004-5>.
- Barapatre, A., & Jha, H. (2016). Decolourization and Biological Treatment of Pulp and Paper Mill Effluent by Lignin-Degrading Fungus *Aspergillus flavus* Strain F10. *Int. J. Curr. Microbiol. App. Sci*, 5(5), 19-32.
- Chakar, F. S., & Ragauskas, A. J. (2004). Review of Current and Future Softwood Kraft Lignin Process Chemistry. *Industrial Crops and Products*, 20(2), 131-141.
- Chaudhari, P. K., Majumdar, B., Choudhary, R., Yadav, D. K., & Chand, S. (2010). Treatment of Paper and Pulp Mill Effluent by Coagulation. *Environmental technology*, 31(4), 357-363.

- Covinich, L. G., Bengoechea, D. I., Fenoglio, R. J., & Area, M. C. (2014). Advanced Oxidation Processes for Wastewater Treatment in The pulp and Paper Industry: A Review. *American Journal of Environmental Engineering*, 4(3), 56-70.
- Duval, A., & Lawoko, M. (2014). A Review on Lignin-Based Polymeric, Micro- and Nano-structured Materials. *Reactive and Functional Polymers*, 85, 78-96.
- Engell, H. J. (1977). Stability and Breakdown Phenomena of Passivating Films. *Electrochimica Acta*, 22, 987-993.
- Fajardo, A. S., Rodrigues, R. F., Martins, R. C., Castro, L. M., & Quinta-Ferreira, R. M. (2015). Phenolic Wastewaters Treatment by Electrocoagulation Process Using Zn Anode. *Chemical Engineering Journal*, 275, 331-341.
- Fang, S., Wang, C., & Chao, B. (2016). Operating Conditions on The Optimization and Water Quality Analysis on The Advanced Treatment of Papermaking Wastewater by Coagulation/Fenton Process. *Desalination and Water Treatment*, 57(27), 12755-12762.
- Goldschmid, O. (1954). Determination of Phenolic Hydroxyl Content of Lignin Preparations by Ultraviolet Spectrophotometry. *Analytical Chemistry*, 26(9), 1421-1423.
- Gong, C., Zhang, Z., Li, H., Li, D., Wu, B., Sun, Y., & Cheng, Y. (2014). Electrocoagulation Pretreatment of Wet-spun Acrylic Fibers Manufacturing Wastewater to Improve Its Biodegradability. *Journal of hazardous materials*, 274, 465-472.
- Hendayana, S. (1994). *Kimia Analitik Instrumen*. Semarang: IKIP Semarang Press.
- Holt, P., Barton, G., & Mitchell, C. (2006). Electrocoagulation as A Wastewater Treatment. *The third annual australian environmental engineering research event*, 1000, 41-46.
- Irfan, M., Butt, T., Imtiaz, N., Abbas, N., Khan, R. A., & Shafique, A. (2013). The Removal of COD, TSS and Colour of Black Liquor by Coagulation-Flocculation Process at Optimized pH, Settling and Dosing Rate. *Arabian journal of chemistry*.
- Isyuniarto, W. U., & Purwadi, A. Degradasi Limbah Cair Industri Kertas Menggunakan Oksidan Ozon dan Kapur.
- Jablonský, M., Kočíš, J., Ház, A., & Šima, J. (2015). Characterization and Comparison by UV Spectroscopy of Precipitated Lignins and Commercial Lignosulfonates. *Cell. Chem. Technol*, 49(3-4), 267-274.
- Jaafarzadeh, N., Ghanbari, F., Ahmadi, M., & Omidinasab, M. (2017). Efficient Integrated Processes for Pulp and Paper Wastewater Treatment and Phytotoxicity Reduction: Permanganate, Electro-Fenton and

- Co_3O_4 /UV/Peroxymonosulfate. *Chemical Engineering Journal*, 308, 142-150.
- Jaafarzadeh, N., Omidinasab, M., & Ghanbari, F. (2016). Combined Electrocoagulation and UV-based Sulfate Radical Oxidation Processes for Treatment of Pulp and Paper Wastewater. *Process Safety and Environmental Protection*, 102, 462-472.
- Katal, R., & Pahlavanzadeh, H. (2011). Influence of Different Combinations of Aluminum and Iron Electrode on Electrocoagulation Efficiency: Application to The Treatment of Paper Mill Wastewater. *Desalination*, 265(1), 199-205.
- Kemenperin. (2016). *Pengembangan Industri Pulp dan Kertas*. Diakses dari: <http://kemenperin.go.id/artikel/7807/Pengembangan-Industri-Pulp-dan-Kertas>.
- Khansorthong, S., & Hunsom, M. (2009). Remediation of Wastewater from Pulp and Paper Mill Industry by The Electrochemical Technique. *Chemical Engineering Journal*, 151(1), 228-234.
- Koby, M., & Demirbas, E. (2015). Evaluations of Operating Parameters on Treatment of Can Manufacturing Wastewater by Electrocoagulation. *Journal of Water Process Engineering*, 8, 64-74.
- Koch, G., & Schmitt, U. (2015). Localization of Lignin and Phenolic Compounds in Woody Tissue by Means of Scanning UV-Microspectrophotometry. (pp. 33-34).
- Lakshmanan, D., Clifford, D. A., & Samanta, G. (2009). Ferrous and Ferric Ion Generation During Iron Electrocoagulation. *Environmental science & technology*, 43(10), 3853-3859.
- Marriaga-Cabrales, N., & Machuca-Martínez, F. (2014). Fundamentals of electrocoagulation.
- Nawaz, A., Ahmed, Z., Shahbaz, A., Khan, Z., & Javed, M. (2014). Coagulation-Flocculation for Lignin Removal from Wastewater – A Review. *Water Science and Technology*, 69(8), 1589-1597.
- Pokhrel, D., & Viraraghavan, T. (2004). Treatment of Pulp and Paper Mill Wastewater - A Review. *Science of the total environment*, 333(1), 37-58.
- Rastegarfar, N., Behrooz, R., & Bahramifar, N. (2015). Electrocoagulation Treatment of Black Liquor from Soda-AQ Pulping of Wheat Straw. *Environmental monitoring and assessment*, 187(2), 45.
- Rohman, A. (2007). *Kimia Farmasi Analisis*. Yogyakarta: Pustaka Pelajar.
- Sahu, O., Mazumdar, B., & Chaudhari, P. K. (2013). Treatment of Wastewater by Electrocoagulation: A Review. *Environmental Science Pollution Research*, 21, 2397-2413. <http://doi.org/10.1007/s11356-013-2208-6>.
- Sameni, J. K. (2015). *Physico-Chemical Characterization of Lignin Isolated from*

- Industrial Sources for Advanced Applications* (Doctoral dissertation, University of Toronto (Canada).
- Särkkä, H. (2013). *Electro-Oxidation Treatment of Pulp and Paper Mill Circulating Waters and Wastewaters*. Acta Universitatis Lappeenrantaensis.
- Sridhar, R., Sivakumar, V., Immanuel, V. P., & Maran, J. P. (2011). Treatment of Pulp and Paper Industry Bleaching Effluent by Electrocoagulant Process. *Journal of hazardous materials*, 186(2), 1495-1502.
- Teh, C. Y., Budiman, P. M., Shak, K. P. Y., & Wu, T. Y. (2016). Recent Advancement of Coagulation–Flocculation and Its Application in Wastewater Treatment. *Industrial & Engineering Chemistry Research*, 55(16), 4363-4389.
- Thakur, S., & Chauhan, M. S. (2016). Electro-Coagulation Integrated with Advance Oxidation Processes: Technical Review on Treatment of Industrial Wastewater. *International Journal of Innovative Research in Science, Engineering and Technology*, 5(6), 11018–11023. <http://doi.org/10.15680/IJIRSET.2015.0506159>.
- Uğurlu, M., Gürses, A., Doğar, Ç., & Yalçın, M. (2008). The Removal of Lignin and Phenol from Paper Mill Effluents by Electrocoagulation. *Journal of environmental management*, 87(3), 420-428.
- Vepsäläinen, M., Selin, J., Rantala, P., Pulliainen, M., Särkkä, H., Kuhmonen, K., ... & Sillanpää, M. (2011). Precipitation of Dissolved Sulphide in Pulp and Paper Mill Wastewater by Electrocoagulation. *Environmental technology*, 32(12), 1393-1400.
- Wang, Y., Lin, H., Jin, F., Niu, J., Zhao, J., Bi, Y., & Li, Y. (2016). Electrocoagulation Mechanism of Perfluorooctanoate (PFOA) on A Zinc Anode: Influence of Cathodes and Anions. *Science of The Total Environment*, 557, 542-550.
- Windika Gameissa, M., Suprihatin, & Siswi Indrasti, N. (2012). Pengolahan Tersier Limbah Cair Industri Pangan Dengan Teknik Elektrokoagulasi Menggunakan Elektroda Stainless Steel, 1(1), 31–37. Retrieved from <http://tin.fateta.ipb.ac.id/journal/e-jaii>.
- Yadav, R., Gupta, R. K., & Sangal, V. K. (2010). *Study of Electrocoagulation and Combined Electrocoagulation-Oxidation Processes for Dye Removal*. (Doctoral dissertation).
- Yang, B., Han, Y., Deng, Y., Li, Y., Zhuo, Q., & Wu, J. (2016). Highly Efficient Removal of Perfluorooctanoic Acid from Aqueous Solution by H₂O₂-Enhanced Electrocoagulation-Electroflotation Technique. *Emerging Contaminants*, 2(1), 49-55.
- Yazdanbakhsh, A. R., Massoudinegad, M. R., Eliasi, S., & Mohammadi, A. S. (2015). The Influence of Operational Parameters on Reduce of Azithromycin COD from Wastewater Using The Peroxi-Electrocoagulation Process. *Journal of Water Process Engineering*, 6, 51-57.

- Zaied, M., & Bellakhal, N. (2009). Electrocoagulation Treatment of Black Liquor from Paper Industry. *Journal of hazardous materials*, 163(2), 995-1000.
- Zodi, S., Louvet, J. N., Michon, C., Potier, O., Pons, M. N., Lopicque, F., & Leclerc, J. P. (2011). Electrocoagulation as A Tertiary Treatment for Paper Mill Wastewater: Removal of Nonbiodegradable Organic Pollution and Arsenic. *Separation and purification Technology*, 81(1), 62-68.