



## DAFTAR PUSTAKA

- Andaleeb, F., Muhammad, A. Z., Muhammad, A., and Zafar, M. K., 2008, Effect of Chromium on Growth Attributes in Sunflower (*Helianthus annuus*), *J. Environ. Sci.*, 20(12), 1475-1480.
- Anonim, 1993. ISO 1145 Soil quality: Determination of dry matter and Water Content on a Mass Basis-Gravimetric Method. ISO. Geneva.
- Anonim, 1997. DIN ISO 11260. Soil quality: Determination of Effective Cation Exchange Capacity and Bulk Saturation Level Using Barium Chloride Solution. The German Institute for Standardization. Berlin.
- Anonim, 1997. U.S. EPA: Exposure Factors Handbook (Final Report), U.S. Environmental Protection Agency. Washington, DC.
- Anonim, 2002. BS EN 13656 Characterization of Waste-Microwave Assisted Digestion with Hydrofluoric (HF), Nitric (HNO<sub>3</sub>) and Hydrochloric (HCl) Acid mixture for subsequent Determination of Elements. British Standards Institution. London.
- Anonim, 2004. DIN CEN/TS 14775. Solid biofuels: Determination of Ash Content. British Standards Institution. London.
- Anonim, 2005. ISO 10390, Soil quality: Determination of pH. ISO. Geneva.
- Anonim, 2013. DIN CEN/TS 15937 Soil quality: Determination of Specific Electrical Conductivity. Beuth Publishing DIN. Berlin.
- Anonim, 2014. ASTM D2974 Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils. ASTM. West Conshohocken.
- Arora, S., Saini, H.S. and Singh, K., 2007, Decolorisation Optimisation of A Monoazo Disperse Dye With *Bacillus firmus* Identification of A Degradation Product, *J. Color. Technol.*, 123, 184-190.
- Baudhh, K. and Singh, R.P., 2011. Differential Toxicity of Cadmium to Mustard (*Brassica juncea L*) Genotypes Under Higher Metal Levels. *J. Environ. Biol.*, 32(2), 355-362.
- Bing, H.J., Xiang, Z.X., Zhu, H. and Wu, Y.H., 2018, Spatiotemporal Variation and Exposure Risk to Human Health of Potential Toxic Elements in Suburban Vegetable Soils of A Megacity, SW China, *J. Environ. Sci. Pollut. Res.*, 25, 4223-4237.



Brantley, S.L., Kubicki, J.D. and White, A.F., 2008. *Kinetics of Water-Rock Interaction*, Springer.

Brooker, C., 2008, *The Medical Dictionary, 16<sup>th</sup> edition*. Churchill, United Kingdom.

Chen, S.B., Wang, M., Li, S.S., Zhao, Z.Q. and Wen-di, E., 2018, Overview on Current Criteria for Heavy Metals and Its Hint for the Revision of Soil Environmental Quality Standards in China, *J. Inter. Agric.*, 17(4), 765-775.

Desta, M. B., 2013, Batch Sorption Experiments: Langmuir and Freundlich Isotherm Studies for the Adsorption of Textile Metal Ions onto Teff Straw (*Eragrostis tef*) Agricultural Waste, *J. Therm.*, 1, 1-6.

Duruibe, J. O., Ogwuegbu, M. O. C., and Egwurugu, J. N., 2007, Heavy Metal Pollution and Human Biotoxic Effects, *Int. J. Phys. Sci.*, 2(5), 112-118.

Ekholm, P., Virkki, L., Ylinen, M., Johansson, L., 2003, The Effect of Phytic Acid and Some Natural Chelating Agents on the Solubility of Mineral Elements in Oat Bran., *J. Food Chemistry.*, 80(2), 165-170.

Erwindo, S. J., 2019, *Karakterisasi Air Limbah Batik di Yogyakarta dan Kabupaten Bantul Dengan Parameter BOD, COD dan TSS*, Disertasi, Universitas Islam Indonesia, Yogyakarta.

Figueiras, A., Lavilla, I., Benedicho, C., 2002, Chemical Sequential Extraction for Metal Partitioning in Environmental Solid Samples, *J. Environ. Monitor.*, 4(6), 823-857.

Gallardo-Lara, F., Azcón, M. and Polo, A., 2006, Phytoavailability and Fractions of Iron and Manganese in Calcareous Soil Amended with Composted Urban Wastes, *J. Environ. Sci Health B.*, 41, 1187-1201.

Gavriloaiei, T., 2012, The Influence of Electrolyte Solutions on Soil pH Measurements, *Rev. Chim.*, 63(4), 396-400.

Hamidpour, M., Karamooz, M., Akhgar, A., Tajabadipour, A. and Furrer, G., 2017. Adsorption of Cd and Zn onto Micaceous Minerals: Effect of Siderophore Desferrioxamine B, *Pedosphere.*, 29(5), 590-597.

Hassan, J., Kamal, M.Z.U. and Alam, M.Z., 2013, Impact of Textile Dyeing Effluents on Germination and Seedlings of Country Beans (*Lablab niger var. typicus*), *J. Environ. Nat. Resour.*, 11, 80-96.

Harter, R.D. and Naidu, R., 2001, An Assessment of Environmental and Solution Parameter Impact on Trace-Metal Sorption by Soils., *J. Soil. Sci. Soc.*, 65(3), 597-612.



- Hawari, A., Rawajfih, Z., Nsour, N., 2009, Equilibrium and Thermodynamics Analysis of Zinc Ions Adsorption by Olive Oil Mill Solid Residues, *J. Hazard. Mater.*, 168(2-3), 1284-1289.
- Herrera-Gonzalez, A.M., Caldera-Villalobos, M., Pelaez-Cid, A.A., 2019, Adsorption of Textile Dyes Using an Activated Carbon and Crosslinked Polyvinyl Phosphonic Acid Composite, *J. Environ. Manag.*, 234, 237-244.
- Hong, S., Gan, P., Chen, A., 2019, Environmental Controls on Soil pH in Planted Forest and its Response to Nitrogen Deposition. *J. Environ. Res.*, 172, 159-165.
- Huang, J., Yuan, F., Zeng, G., Li, X., Gu, Y., Shi, L. and Liu, W., 2017. Influence of pH on Heavy Metal Speciation and Removal from Wastewater Using Micellar-Enhanced Ultrafiltration, *Chemosphere*, 173, 199-206.
- Inaba, S. and Takenaka, C., 2005, Effects of Dissolved Organic Matter on Toxicity and Bioavailability of Copper for Lettuce Sprouts, *J. Environ. Int.*, 31(4), 603-608.
- Järup, L., 2003, Hazards of Heavy Metal Contamination. *Br. Med. Bull.*, 68(1), 167-182.
- Jones, D.L., Dennis, P.G., Owen, A.G. and van Hees, P.A.W., 2003, Organic Acid Behavior in Soils-Misconceptions and Knowledge Gaps, *Plant and Soil.*, 248(1), 31-41.
- Kang, S., Qin, L., Zhao, Y., Wang, W., Zhang, T., Yang, L., Rao, F. and Song, S., 2020, Enhanced Removal of Methyl Orange on Exfoliated Montmorillonite/Chitosan Gel in Presence of Methylene Blue, *Chemosphere*, 238.
- Khan, M.U., Muhammad, S., Malik, R.N., Khan, S.A. and Tariq, M., 2015. Heavy Metals Potential Health Risk Assessment Through Consumption of Wastewater Irrigated Wild Plants: A Case Study. *Human and Ecological Risk Assessment.*, 22(1), 141-152.
- King, P., Rakesh, N., Lahari, S.B., Kumar, Y.P. and Prasad, V.S.R.K., 2008, Biosorption of Zinc Onto *Syzygium cumini* L.: Equilibrium and Kinetic Studies, *J. Chemi. Eng.*, 144(2), 181-187.
- Kirimura K. and Yoshioka, I., 2019, *Industrial Biotechnology and Commodity Products in Comprehensive Biotechnology 3<sup>rd</sup> edition*, Elsevier.
- Krishnamurti, G.S., Huang, P.M., Kozak, L.M., 1999, Sorption and Desorption Kinetics of Cadmium from Soils: Influence of Phosphate, *J. Soil Sci.*, 164, 888-898.



Letho, R.S., 1968, *A Review of Supergene Nonsulphide Zinc (SNSZ) Deposits*, Reinhold Book Corporation, New York.

Li, Z., Feng, X., Li, G., Bi, X., Zhu, J. and Qin, H., 2013, Distributions, Sources and Pollution Status of 17 Trace Metal/Metalloids in the Street Dust of a Heavily Industrialized City of Central China, *J. Environ. Pollut.*, 182, 408-416.

Liang, X., Ning, X., Chen, G., Lin, M., Liu, J. and Wang, Y., 2013, Concentrations and Speciation of Heavy Metals in Sludge From Nine Textile Dyeing Plants, *J. Ecotoxicol. Environ. Saf.*, 98, 128-134.

Liu, F. and Wang, W.X., 2013, Facilitated Bioaccumulation of Cadmium and Copper in the Oyster *Crassostrea hongkongensis* Solely Exposed to Zinc, *Environ. Sci. Technol.*, 43(3), 1670-1677.

Liu Y., Feng, L., Hu, H. and Jiang, G., 2012, Phosphorus Release from Low-Grade Rock Phosphate by Low Molecular Weight Organic Acids. *J. Food Agric. Environ.*, 10(1), 1001-1007.

Lu, X.W., Wang, L.J., Li, L.Y., Lei, K., Huang, L. and Kang, D, Multivariate Statistical Analysis of Heavy Metals in Street Dust of Baoji, NW China, *J. Hazard. Mater.*, 173(1-3), 744-749.

Lv, N., Wang, X., Peng, S., Zhang, H. and Luo, L., 2018, Study of the Kinetics and Equilibrium of the Adsorption of Oils onto Hydrophobic Jute Fiber Modified via the Sol-Gel Method, *Int. J. Environ. Res. Public Health*, 15, 1-14.

Ma, L., Xu, R. and Jiang, J., 2010, Adsorption and Desorption of Cu(II) and Pb(II) in paddy soils cultivated for Various Years in the Subtropical China, *J. Environ. Sci.*, 22(5), 689-695.

Martell, A., and Hancock, R., 1996, *Metal Complexes in Aqueous Solutions*, New York, Plenum Press.

Mohan, D. and Singh, K.P., 2002, Single-and Multi-Component Adsorption of Cadmium and Zinc Using Activated Carbon Derived From Bagasse-an Agricultural Waste, *Water. Res.*, 36(9), 2304-2318.

Montiel-Rozas, M.M., Madejón, P., 2016, Effect of Heavy Metals and Organic Matter on Root Exudates (Low Molecular Weight Organic Acids) of Herbaceous Species: An Assessment in Sand and Soil Conditions Under Different Levels of Contamination, *J. Environ. Pollut.*, 216, 273-281.

Morais, S., Costa, F.G. and Pereira, M.D.L., 2012. Heavy Metals and Human Health. *Environmental Health-Emerging Issues and Practice*, 10(1), 227-245.



- Mouni, L., Merabet, D., Robert, D. and Bouzazza, A., 2009, Batch Studies for the Investigation of the Sorption of the Heavy Metals  $PB^{2+}$  and  $Zn^{2+}$  onto Amizour Soil (Algeria). *J. Geoderma*, 154(1-2), 30-35.
- Muthu, S. S., 2014, *Woodhead Publishing Series in Textiles. In: Assessing the Environmental Impact of Textiles and the Clothing Supply Chain*, Woodhead Publishing Limited, Hongkong.
- Özkaya, B., 2006, Adsorption and Desorption of Phenol on Activated Carbon and A Comparison of Isotherm Model, *J. Hazard. Mater.*, 129(1-3), 158-163.
- Pathak, A.K., A, Rakesh., Kumar, P., Yadav, S., 2015, Sources Apportionment and Spatiotemporal Changes in Metal Pollutants in Surface and Sub-surface Soils of a Mixed Type Industrial Area in India, *J. Geochem. Explor.*, 159, 169-177.
- Paul, C.S., Mercel, F., Száková, J., Tejnecký, V. and Tlustoš, P., 2021, The Role of Low Molecular Weight Organic Acids in the Release of Phosphorus from Sewage Sludge-based Biochar, *All Life.*, 14(1), 599-609.
- Paździor, K., Bilińska, L. and Ledakowicz, S., 2019, A Review of the Existing and Emerging Technologies in the Combination of AOPs and Biological Processes in Industrial Textile Wastewater Treatment, *J. Chem. Eng*, 376.
- Pereira, F., Gurgel, L., Aquino, S. and Gil, L., 2009, Removal of  $Zn^{2+}$  from Electroplating Wastewater Using Modified Wood Sawdust and Sugarcane Bagasse, *Environ. Eng.*, 135, 341-350.
- Qin, F., Shan, X.Q. and Wei, B., 2004. Effects of Low-Molecular-Weight Organic Acids and Residence Time on Desorption of Cu, Cd, and Pb From Soils. *Chemosphere.*, 57(4), 253-263.
- Ren, H. and Zhang, X., 2020, *High-Risk Pollutants in Wastewater 1<sup>st</sup> edition*, Elsevier.
- Rieuwerts, J.S., Thornton, I. Farago, M.E. and Ashmore, M.R., 1998, Factors Influencing Metal Bioavailability in Soils: Preliminary Investigations for the Development of A Critical Loads Approach for Metals, *J. Chem. Speciat. Bioavailab.*, 10(2), 61-75.
- Rout, G. R. and Das. P., 2009, Effect of Metal Toxicity on Plant Growth and Metabolism: I. zinc, *J. Sustain. Agric*, 873-884.
- Samreen, T., Shan, H.U., Ullah, S. and Javid, M., 2017, Zinc Effect on Growth Rate, Chlorophyll, Protein and Mineral Contents of Hydroponically Grown Mungbeans Plant (*Vigna radiata*), *J. Arab. Chem.*, 10(2), S1802-S1807.



Satarug, S., Garret, S.H., Sens, M.A. and Sens, D.A., 2010, Cadmium, Environmental Exposure, and Health Outcomes. *J. Environ. Health Perspect.*, 118(2), 182-190.

Seow T W. and Lim, C.K., 2016, Removal of Dye By Adsorption: A review, *J. App. Eng. Res.*, 11(4), 2675-2679.

Sfakianakis, D.G., Renieri, E., Kentouri, M. and Tsatsakis, A.M., 2015, Effect of Heavy Metals on Fish Larvae Deformities: a Review, *Environ. Res.*, 137, 246-255.

Singh, K.P., Malik, A., Sinha, S., Singh, V.K. and Murthy, R.C., 2005, Estimation of Source of Heavy Metal Contamination in Sediments of Gomti River (India) using Principal Component Analysis, *Water Air Soil Pollut.*, 166, 321-341.

Sonai, G.G., de Souza, S.M., de Oliveira, D. and de Souza, A.A., 2016, The Application of Textile Sludge Adsorbents for the Removal of Reactive Red 2 Dye, *J. Environ. Manag.*, 168, 149-156.

Szabela, D.A., Anielak, P. and Wolf, W.M., 2017, Influence of Disgestion Procedure and Residual Carbon on Manganese, Copper, and Zinc Determination in Herbal Matrices by Atomic Absorption Spectrometry, *J. Anal. Method. Chem.*, 1-10.

Tisserand, R. and Young, R., 2014, *Essential Oil Safety: A Guide for Health Care Professionals 2<sup>nd</sup> edition*, Elsevier Health Sciences.

Varjani, S., Rakholiya, P., Ng, H.Y., You, S. and Teixeira, J.A., 2020, Microbial Degradation of Dyes: An Overview, *J. Bioresour Technol.*, 314.

Xiao, M. and Wu, F., 2014, A Review of Environmental Characteristic and Effects of Low-Molecular Weight Organic Acids in the Surface Ecosystem, *J. Environ Sci.*, 26(5), 935-954.

Xiao, M. and Wu, F., 2014, A review of environmental characteristics and effects of low-molecular weight organic acids in the surface ecosystem, *J. Environ. Sci.*, 26(5), 935-954.

Wang, X., Li, C., Li, Z., Yu, G. and Wang, Y., 2019, Effect of Pyrolysis Temperature on Characteristics, Chemical Speciation and Risk Evaluation of Heavy Metals in Biochar Derived From Textile Dyeing Sludge, *J. Ecotoxicol. Environ. Saf.*, 168, 45-52.

Xing, W., Zhao, Q., Scheckel, K., Zheng, I. and Li, L., 2019, Inhalation Bioaccessibility of Cd, Cu, Pb and Zn and Speciation of Pb in Particulate Matter Fractions From Areas With Different Pollution Characteristics in Henan Province, China, *J. Ecotoxicol. Environ. Saf.*, 175, 192-200.



UNIVERSITAS  
GADJAH MADA

Kajian Parameter Fisika-Kimia Tanah Sekitar Industri Tekstil di Bantul dan Uji Toksisitas Menggunakan Biji Bayam Hijau (*Amaranthus viridis*) dan Kacang Hijau (*Vigna radiata*)  
SITI ALYSHA ASTARI, Suherman, S.Si., M.Sc., Ph.D; Prof. Drs. Mudasir, M.Eng., Ph.D

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Yang, J.Y., Yang, X.E., He, Z.L., Li, T.Q., Shentu, J.L. and Stoffella, P.J., 2006, Effects of pH, Organic Acids, and Inorganic Ions on Lead Desorption from Soils, *J. Environ. Pollut.*, 143(1), 9-15.

Yi H, Men, B., Yang, X.F., Li, Y.X., Hui, X. and Wang, D.S., 2019, Relantionship Between Heavy Metals and Dissolved Organic Matter Released from Sediment by Bioturbation/Bioirrigation, *J. Environ. Sci.*, 75, 216-223.

Yuan, S., Xi, Z., Jiang, Y., Wan, J., Wu, C., Zheng, Z. and Lu, X., 2007, Desorption of Copper and Cadmium From Soils Enhanced by Organic Acids, *Chemosphere.*, 68(7), 1289-1297.

Zeng, F., Ali, S., Zhang, H., Ouyang, Y., Qiu, B., Wu, F. and Zhang, G., 2011, The Influence of pH and Organic Matter Content in Paddy Soil on Heavy Metal Availability and Their Uptake by Rice Plants, *J. Environ. Pollut.*, 159(1), 84-91.