

## References

- Adamec, J.B. and Kihlgren, T.E. (1967). "Nickel and nickel alloys". In Encyclopedia of Chemical Technology, Vol. 13, 2nd ed. Wiley-Interscience, New York, pp 735-753.
- Alloway, B.J. (ed.) (1995). " Heavy metals in the Soil" 2nd ed. Chapman and Hall pp 165.
- Ahrland, S., Chatt, J. and Davies, N.R.(1965). 'The relative affinities of ligand atoms for acceptor molecules and ions.' *Quart. Revs. Chem. Soc.*, **11**: .265.
- Boldth, J.R. and Queneau, p.(1967). 'The winning of Nickel'. Longmans Canada, Toronto.
- Bhattacharya, A.K. and Venkobachar, C.(1984). "Removal of Cd(II) by low cost adsorbent" *J. Of Environmental Engineering*, **110(1)**: 18540.
- Bhattacharya, D. and R. Cheng, C.Y.(1987). Activated carbon adsorption of heavy metal chelates from single and multiple component systems. *Env. Progress.*, **6(2)**: 110-117.
- Bernardin, F.E.(1985), 'Experimental design and testing of adsorption and adsorbates' In : Adsorption Technology' edited by Franks, and L. Slejko. Marcel Dekker Inc. NewYork, p.54.
- Bowers, A.R. and Huang, C.P..(1986) 'Adsorption characteristics of Metal-EDTA complexes onto Hydrous oxides'. *J. Colloid & Interf. Sci.* **110(2)**: 575-590.
- Bell, G. And Cousins, R.B. (1994) 'Membrane Separation Processes. In: Engineering processes for bioseparations. Laurance, R.W.(ed). Butterworth-Heinemam Ltd. p.135.
- Clark, M.M. and Srivastava, R.M.(1993)' Mixing and aluminium precipitation' In *Env. Sci. Technol.*, **27**: 2181-89.
- Crist,R.H., Oberhauser,K., Shank,N and Nguyen, M.(1981), 'Nature of bonding between Metallic ions and algae cell walls, *Env. Sci. Technol.* **15**: 1212-1217.
- Cotton, F.A. and Wilkinson, G.(1972), ' Advanced Inorganic chemistry'. Interscience Publishers, New York. p. 646.

- Chang, L.Y. (1996). "An Industrial wastewater pollution prevention study: "Evaluation of precipitation and separation processes." *Environmental Progress*, **15**: 28.
- Davis, B.E. (1980). 'Trace element pollution' Davies (ed.) Applied Soil trace Elements, John Wiley and Sons, Chichester, p. 287-351
- Department of Environment, (1985). 'Report on Toxic and Hazardous Waste Survey in Malaysia. Ministry of Science, Technology and Environment, Malaysia.
- Darnall, D.W.(1991). 'Removal and recovery of heavy metal ions from wastewater using a new biosorbent' Innovative Hazardous Waste Treatment Technology series, Vol.3 Biological processes. Freeman, H.M. and Sterra(eds.) Technomic publishing Company, Lancaster. p.65.
- Davis,M. And Sunday, T. (1992). Treatment of metal plating and finishing wastes. In: Handbook of industrial waste treatment **Vol. 1** Wang, L.K., Sungwang, M.H. (eds.) Marcell and Dekker, New York.
- Elliot, H.A. and Huang, C.P. (1980). "The adsorption of some Cu(II) Amino complexes at the solid solution interface." *Environmental Science & Technology*, **14(1)**: 87-92.
- Forbes, E.A.,(1974). "The specific adsorption of inorganicHg(ii) species and Co(ii) complex ions on geothite".*J. Colloid & Interf. Sci.*, **49**: 403-409.
- Farley, K.J., Dzombak,A.D. and Morel, F.M.M. (1985). "A surface precipitation model for the sorption of cations on metal oxides." *J. of colloid & Interf. Sci.*, **106(1)**: 226-242.
- Greene (1985). 'The accumulation of metal ions in aqueous solutions by freeze-dried Chlorella vulgaris. Ph D Thesis, New Mexico State University. Las Cruces, N.M.
- Gregg, S.J. (1961). 'The surface chemistry of solids' Chapman & Hall Ltd. U.K. p 52-54.
- Higgins, T.E.,(1989)..: Hazardous Waste Minimization Handbook. Lewis Publishers, Michigan.p75.
- Huang C.P. and Blankenship, D.W. (1984) 'The removal of mercury(II) from dilute aqueous solution by activated carbon' *Water Research*, **18(1)**: 37-46.
- Hale, J.G.,(1970). 'Toxicity of metal mining wastes. *Bull. Environment Contamination Toxicology*. **6**: 73.

- Huang, C.P. and Bowers, A.R. (1978). "The use of activated carbon for chromium (VI) removal" *Prog. Wat. Tech.*, **10**, (5/6), p 45-64.
- Huang, C.P., Hsieh, Y.S., Park, S.W., Bowers, A.R., Corapcioglu, M.O. and Elliot, H.A. (1990) 'Chemical interactions between heavy metal ions and hydrous solids' In : Metals speciation separation and recovery' Editor. J.W. Patterson & R.Passino. Lewis Publishers, Inc.
- Huang, Y.C. and Koseoglu, S.S. (1993). "Separation of heavy metals from industrial waste streams by membrane separation technology". *Waste Management*, **13**: 481
- 'Industrial Pollution Control Guide-lines' ESCAP-Environmental and Development Series. (1982). P 10-13.
- Jung, I.K. and John ,Z.J.(1977)' Chromium removal with activated carbon' *Prog. Wat. Tech.* :**9**: 143-155.
- James, R.O.,and Healy, T.W. ( 1972). "Adsorption of hydrolyzable metals ions at the oxide-water interface" *J. Coll. Int. Sci.* **40**: 65.
- James, R.O. Steglieh, P.J.and Healy, T.W. (1973). Analysis of models of adsorption of metal ions at the oxide-water interface. *Trans. Faraday Soc.*, **59**: 142.
- Low, K.S., Lee, C.K. and Leo, A.C.(1995) "Removal of metals from electroplating wastes using banana pith." *Bioresource Technology*, **51**: 227-231.
- Morel, F.M.M. (1983). Principles of aquatic chemistry Wiley-Interscience, New York.
- Menzell, R.G. and Jackson, M.L. (1950). "Mechanism of sorption of hydroxy Cupric ion by clays." *Soil Science Soc. Am. Proc.*, **15**:122.
- Meites, L.(1981) An introduction to chemical equilibrium and kinetics. Pergamon Press, Oxford.
- Matsuara, T.(1994) "Membrane modules Synthetic Membranes and Membrane Separation processes". CRC Press Inc. p 305.
- McKay, G. Oherburn M.S., Sweeny, A.G.(1981)' The removal of color from effluent using various adsorbents(iii). Silica'; Rate processes. *Water Res.* Vol. 14 p 15-20
- Mc Naughton M.G. and James, R.O. (1974). "Adsorption of aqueous mercury(II) complexes at oxide/ water interface". *J. Colloid & Interface Sci.*; **47**: 429.

- Matsuara, T. and Sourirajan, S. (1981). 'Reverse osmosis transport through pores under the influence of surface forces. *Ind. Engg. Chem. Process Des. Dev.*, Vol 20. p. 273.
- Nriagu, J.O.(ed.) (1980)'Nickel in the environment, John Wiley & Sons. New York. p.3-10.
- Nakajima, A., Horikoshi, T. And Sakaguchi, T. (1981) "Studies on the accumulation of heavy metal elements in biological systems.xvii. Selective accumulation of heavy metal ions by Chlorella regularies." *J. Appl. Microbiological. Biotechnol.* **12**: 76.
- Nieboer, E. And Richardson, D.H.S., (1980) "The replacement of the nondescript term 'Heavy metal' by a biologically and chemically significant classification of metals ions." *Env. Bull.* **1**: 3.
- Novak, J.W., Burr, R.R., and Bednarik, R.,(1987) " Mechanisms of metal ion adsorption on activated alumina' Metal Speciation Separation and recovery" Edited by J.W.Patterson and R. Passino. Lewis Publishers, Inc., Michigan.
- Patterson, J.W. (1985) 'Industrial wastewater treatment technology' 2nd edition. Butterworth Publishers, Stoneham.
- Papp. J.F. (1988) In: US Bureau of Mines Minerals Yearbook (1986) Vol. 1 Metals and Minerals US Dept. of interior, Washington DC. p.225-244.
- Perhac, R.M. (1972). "Distribution of Cd, Co, Cu, Fe, Mn, Ni, Pb and Zn in dissolved and particulate solids from two streams in Tennessee" *J. Hydrology*, **15**: 177-186.
- Peterson, J.T. and Junge, L.E. (1971). In : W.H. Mathews, W.W. Kellogg, and G.D. Robinson, (eds.), *Man's impact on climate*, MIT Press, Cambridge. pp 310-320.
- Pickering, Q.H. (1974). "Chronic Toxicity of Nickel to the 'Fathead Minnow'". *J. Water Pollution Control fed.* **46(4)**: 760-65.
- Petrs, R.W., Ku, Y. and Bhattacharya, D.(1985). 'Evaluation of recent treatment techniques for removal of heavy metals from industrial wastewaters. *AiChE Symp. Series*, No. 243, vol 81, p 165.
- Pandey, K.K., Prasad, G., and Singh, V.N., (1985). "Copper(II) removal from aqueous solution by flyash." *Water Res.* **19(7)**: 869-873.
- Pankow, J.F. and Morgan, J.J. (1981). "Kinetics for the aquatic environment,"*Env. Sci. Technol.*, **15**: 1155-1306.

- Pearson, R. (1973). *Hard and Soft Acids and Bases*. Dowden, Hutchinson and Ross, Philadelphia.
- Prakash, O., Mehra, I. and Kumar, P. (1987). "Removal of Cd from water by water hyacinth," *J. Env. Eng.* **113**: 352-65.
- Pandey, K.K. and Yadava KP (1987). "Fly ash for the treatment of Cd(II) rich effluents," *J. Env. Tech. Letter*, **8(5)**: 225-234.
- Porter, M.C., (1972). "Concentration polarization with membrane ultrafiltration." *Ind. Eng. Chem. Prod. Res. Develop.*, **11(3)**: 234.
- Paul, D.R. (1972). "The role of Membrane Pressure in reverse osmosis." *J. of App. Polymer Sci.* **16**: 771-782.
- Rakmi, A.R. (1996). 'Management of Wastes from the electroplating Industry'. IKM Seminar on Hazardous Waste Management and Disposal. 29-30 March, Kuala Lumpur
- Robert, N. (1991). 'Handbook of Pollution Control Processes. Noyes Publications, N.J. pp 289.
- Robinson, E. and Robbins, R.C. (1971). "Emissions, Concentrations and Fate of Particulate Atmospheric Pollutants." Stanford. Res. Inst. Rep. No. PA .4211, p93.
- Rubin, A.J., and Mercer, D.L., (1987). "Effect of complexation on the adsorption of cadmium by activated carbon," *Separation Sci. and Technology* **22(5)**: 1359-81
- Richard, D.N. (1987). "An overview of membrane separations". *Separation Sci. and Technology*, **22**: 731.
- Rao, P.S., Mise, S.R., and Manjunathe, G.S. (1992). "Kinetics studies on adsorption of chromium by coconut shell carbon from synthetic effluents", *J. Env. Sci. Health, A.* **27(8)**: 2227-41.
- Srivastava, S.K., Tyagi, R. And Pant, N. (1989). "Adsorption of heavy metal ions on carbonaceous material developed from waste slurry generated in a Fertilizer plant". *Wat. Res.* , **23**: 1161-5.
- Sharma , D.C., and Forster, C.F. (1994,a). "A Preliminary examination into the adsorption of hexavalent chromium using low-cost adsorbents," *Bioresources Tech.*, **47**: 257-64.
- Sharma , D.C. and Forster, C.F. (1994,b). "Compost as an adsorbent for the treatment of hexavalent chromium," *Trans. Inst. Chem. Eng.* **74(B)**: 234-40.

- Sharma , D.C. and Forster, C.F. (1994,c) "The treatment of chromium wastewaters using the sorbtive potential of leaf mould." *Bio Resource Tech.* **49**: 31-40.
- Sillen, L.G. and Martell, A.E. (1971). Stability Constants of metal ion complexes, Suppl. No. 1. The Chemical Soc. London.
- Schmidth, J.A. and Andrew, A.W.(1980), 'Nickel in the environment' ed. Nriagu, J.O. John Wiley, New York. p. 68-80.
- Sanders, J.R. and Adams, T. Mc. M. (1987). *Env. Pollution* **44**: 193-220
- Sunderman, F.W. (1970) , ' Nickel poisoning' In Laboratory diagnosis of diseases caused by toxic agents. By Sunderman, F.W and Sunderman, F.W. Jr. (Eds.) St. Louis, Mo., p 387-396.
- Stumm , W., and Bilinski (1972) 'Trace metals in natural waters: Difficulties of interpretation arising from our ignorance on their speciation. In : Proc. Sixth Int. Conf. Wat. Poll. Res. Pergamon Press, New York. P 39.
- Stumm, W. and Morgan, J.J. (1981)' Aquatic Chemistry' 'An introduction emphasizing chemical equilibria' John Wiley & Sons publishers, New York, p780
- Stumm, W. (1992) Chemistry of the solid-water interface; Process at the mineral-water and particle-water interface, Wiley Inter-Science. New York.
- Stumm,W,and Morgan,J.J. (1996). 'Aquatic Chemistry' 3rd Edition, John Wiley & Sons, Inc., New York. pp 586-593
- Scoh,Ki (1996). Overview of the application of the synthetic membrane process. Industrial Membrane Separation Technology. Blackie Academic and professional. Glasgow. p 8.
- Singh,V.N., Singh,I.S. and Singh, N.P. (1984). *Indian J. Technology*, **22**: 72-74.
- Tan, T.W., Ooi, S.T. and Lee, C.K. (1993). "Removal of chromium(vi) from solution by coconut husk and palm pressed fibres." *Environmental Technology*, **14**: 277-82.
- Tewary, P.H., Campbell, A.B.,and Lee, W.,(1972) "Adsorption of Co(II) by oxides from aqueous solution." *Can J. Chem.* **50**: 1642-1648.
- Venkobachar, C. (1990). "Metal removal by waste biomass to upgrade wastewater treatment plants,". *Wat. Sci. Tech.* **22**; 319-20.
- Viraghavan, P.P., Yadava, K.P. and Singh, V.N. (1991). Nickel (II) removal from aqueous solutions by adsorption on fly ash. *Pertanika*, **12**: 347-66.

- Weber, W.J.Jr. (1972). Physio-chemical processes for water quality control, Wiley Interscience. pp.640
- Weber, W.J.Jr. and B.M. Van Vliet, (1980). "Fundamental concepts for application of activated carbon in water and wastewater treatment" Vol. 1 I.H. suffet and M.J. McGuire, (eds) Ann Arbor Sci. Publishers, Inc. Ann Arbor. MI.
- Waldron, H.A.(1980) (ed) . Metals in the environment, Academic Press, pp.265.
- Water Research Center, (1984). 'Proposed Environmental Quality Standards For List Ii Substances In Water, Nickel.
- Weber, W.J.Jr., Mcginley, P.M., And Katz, L.E. (1991) Sorption Phenomena In Subsurface Systems; Concepts, Models And Effects On Contaminant f ate And Transport," *Wat. Res.* **25(5)**: 499-528.
- Weber, W.J., Morris, Jr.(1963)' Kinetics Of Adsorption On Carbon From Solution. *J. San. Engg. Div. Asce.* **89(Sa2)**; 31-39.
- Weber, T.N. And Chakravorti, R.K. (1974). 'Pore And Solid Diffusion Models For Fixed Bed Adsorbers' *Aiche Journal*, 20(2), 228-238.
- Young, K., And Peter, R.W. (1987). *Environmental Progress*, **6(2)**: 119-124.
- Yadava Kp. Pandey, K.K. (1987). Fly-ash for the tratment of Cd(II) rich effluent. *J. Env. Tech. Letter*, **8(5)**; 225-234
- Yadava K.P., Tyagi,BS., Singh VN.,(1988) "Removal Of As(III) From Aqueous Solution By Adsorption On China Clay," *J. Env. Tech. Letters*, **9(11)**: 1233-44.
- Zhipei, Z., Junlu, y., Zenguni, W. and Piya, C., (1984). "A preliminary study of Lead(II), Cadmium(II) Zinc(II), Nickel(II) and Chromium (VI) from wastewaters with several Chinese peats. *Int. Peat Congree Proc. Dublin*, p 147-52.