

## 9. REFERENCES

- Aamodt RL, Rumble WF, Babcock AK, et al. 1982. Effects of oral zinc loading on zinc metabolism in humans: I. Experimental studies. *Metabolism* 31:326-334.
- \*Aamodt RL, Rumble WF, Henkin RI. 1983. Zinc absorption in humans: Effects of age, sex, and food. In: Inglett G, ed. *The nutritional bioavailability of zinc*. Washington, DC: The American Chemical Society, 61-82.
- Aamodt RL, Rumble WF, Johnston GS, et al. 1981. Absorption of orally administered  $^{65}\text{Zn}$  by normal human subjects. *Am J Clin Nutr* 34:2648-2652.
- Aastrup P, Riget F, Dietz R, et al. 2000. Lead, zinc, cadmium, mercury, selenium, and copper in Greenland caribou and reindeer (*Rangifer tarandus*). *Sci Total Environ* 245:149-159.
- Abdelmageed AB, Oehme FW. 1991. The effect of various dietary zinc concentrations on the biological interactions of zinc, copper, and iron in rats. *Biol Trace Elem Res* 29(3):239-256.
- Abrams SA, Zavaleta N, Lonnerdal B. 2002. Absorption of iron (Fe) and Zinc (Zn) by 1-yr-old Peruvian children consuming a diet based on wheat flour fortified with Fe with or without Zn and/or vitamin A. *Pediatr Res* 51:189A.
- Abshire MK, Buzard GS, Shiraishi MPW. 1996. Induction of *c-myc* and *c-jun* proto-oncogene expression in rat L6 myoblasts by cadmium is inhibited by zinc preinduction of the metallothionein gene. *J Toxicol Environ Health* 48:359-377.
- Absil MCP, van Scheppingen Y. 1996. Concentrations of selected heavy metals in benthic diatoms and sediment in the Westerschelde estuary. *Bull Environ Contam Toxicol* 56:1008-1015.
- \*ACGIH. 1991. Threshold limit values for chemical substances and physical agents and biological exposure indices - 1991-1992. Cincinnati, OH: American Conference of Governmental Industrial Hygienists.
- Acuff-Smith KD, Rogers JM, Keen CL, et al. 1995. Toxicant-induced maternal-embryonic Zn deficiency causes excess cell death in rat embryos. *Teratology* 51:171.
- Adachi A, Okiyu M, Nishikawa A, et al. 1998. Metal levels in rain water from Kobe City in Japan. *Bull Environ Contam Toxicol* 60:892-897.
- \*Adams PC, Bradley C, Frei JV. 1991. Hepatic zinc in hemochromatosis. *Clin Invest Med* 14(1):16-20.
- Adamson IYR, Prieditis H, Hedgecock C, et al. 2000. Zinc is the toxic factor in the lung response to an atmospheric particulate sample. *Toxicol Appl Pharmacol* 166:111-119.
- Adarve MJ, Hernandez AJ, Gil A, et al. 1998. Boron, zinc, iron, and manganese content in four grassland species. *J Environ Qual* 27:1286-1293.

---

\* Cited in text

## 9. REFERENCES

- \*Adinolfi M. 1985. The development of the human blood-CSF-brain barrier. *Dev Med Child Neurol* 27:532-537.
- \*Adlercreutz H. 1995. Phytoestrogens: Epidemiology and a possible role in cancer protection. *Environ Health Perspect Suppl* 103(7):103-112.
- \*Agency for Toxic Substances and Disease Registry. 1989. Agency for Toxic Substances and Disease Registry. *Fed Regist* 54:37618-37634.
- Agency for Toxic Substances and Disease Registry. 1995. Toxicological profile for zinc. Public Health Service. Atlanta, GA: U.S. Department of Health and Human Services.
- \*Agren MS. 1990. Percutaneous absorption of zinc from zinc oxide applied topically to intact skin in man. *Dermatologica* 180:36-39.
- \*Agren MS. 1991. Influence of 2 vehicles for zinc oxide on zinc absorption through intact skin and wounds. *Acta Derm Venereol (Stockh)* 71(2):153-156.
- \*Agren MS, Krusell M, Franzen L. 1991. Release and absorption of zinc from zinc oxide and zinc sulfate in open wounds. *Acta Derm Venereol* 71(4):330-333.
- Ahmad S, Waheed S, Mannan A, et al. 1993. Evaluation of trace elements in wheat and wheat by-products. *J AOAC Int* 77:11-17.
- Ahmed KO, Al-Swaidan HM, Davies BE. 1993. Simultaneous elemental analysis in dust of the city of Riyadh, Saudi Arabia by inductively coupled plasma-mass spectrometry (ICP/MS). *Sci Total Environ* 138:207-212.
- Aiken SP, Horn NM, Saunders NR. 1992a. Effects of amino acids on zinc transport in rat erythrocytes. *J Physiol* 445:69-80.
- Aiken SP, Horn NM, Saunders NR. 1992b. Effects of histidine on tissue zinc distribution in rats. *BioMetals* 5(4):235-243.
- Ajmal M, Khan MK, Normani AA. 1985. Distribution of heavy metal in water and sediments of selected sites of Yamuna River (India). *Environ Monit Assess* 5:205-214.
- \*Akhter MS, Madany IM. 1993. Heavy metals in street and house dust in Bahrain. *Water Air Soil Pollut* 66:111-119.
- Alabdula'aly AI, Khan MA. 2000. Chemistry of rain water in Riyadh, Saudi Arabia. *Arch Environ Contam Toxicol* 39:66-73.
- Alam MGM, Tanaka A, Allinson G, et al. 2002. A comparison of trace element concentrations in cultured and wild carp (*Cyprinus carpio*) of Lake Kasumigaura, Japan. *Ecotoxicol Environ Saf* 53:348-354.
- Alam SM, Gupta A, Kumar S, et al. 1986. The role of zinc in renal diseases. *J Indian Med Assoc* 84:233-236.

## 9. REFERENCES

Albering HJ, Vanleusen SM, Moonen EJC, et al. 1999. Human health risk assessment: A case study involving heavy metal soil contamination after the flooding of the river Meuse during the winter of 1993-1994. *Environ Health Perspect* 107:37-43.

\*Alexander J, Aaseth J, Refsvik T. 1981. Excretion of zinc in rat bile--a role of glutathione. *Acta Pharmacol Toxicol* 49:190-194.

Alexandre S, Rast C, Maire MA, et al. 2003. ZnCl<sub>2</sub> induces Syrian hamster embryo (SHE) cell transformation. *Toxicol Lett* 142(1-2):77-87.

\*Allen JG, Masters HG, Peet RL, et al. 1983. Zinc toxicity in ruminants. *J Comp Pathol* 93:363-377.

Allen JRL, Rae JE, Zanin PE. 1990. Metal speciation (Cu, Zn, Pb) and organic matter in an oxic salt marsh, Severn Estuary, Southwest Britain. *Mar Pollut Bull* 21:574-580.

Alliot A, Piron-Frenet M. 1990. Relationship between metals in seawater and metal accumulation in shrimps. *Mar Pollut Bull* 21(1):30-33.

Almas A, Singh BR, Salbu B. 1999. Mobility of cadmium-109 and zinc-65 in soil influenced by equilibration time, temperature, and organic matter. *J Environ Qual* 28:1742-1750.

Al-saleh IA. 1996. Trace elements in drinking water coolers collected from primary schools, Riyadh, Saudi Arabia. *Sci Total Environ* 181:215-221.

\*Altman PL, Dittmer DS. 1974. In: *Biological handbooks: Biology data book*. Vol. III. 2<sup>nd</sup> ed. Bethesda, MD: Federation of American Societies for Experimental Biology, 1987-2008, 2041.

\*Alvarado J, Moreno R, Cristiano AR. 1991. Determination of cadmium, chromium, copper, lead and zinc in human semen by graphite-furnace atomic absorption spectrometry after microwave sample dissolution. *J Trace Elem Electrolytes Health Dis* 5(3):173-180.

Alvarez JM, Novillo J, Obrador A, et al. 2001. Mobility and leachability of zinc in two soils treated with six organic zinc complexes. *J Agric Food Chem* 49:3833-3840.

\*Amacher DI, Paillet SC. 1980. Induction of trifluorothymidine-resistant mutants by metal ions in L5178Y/TK<sup>+/+</sup> cells. *Mutat Res* 78:279-288.

\*Amdur M, McCarthy J, Gill M. 1982. Respiratory response of guinea pigs to zinc oxide fume. *Am Ind Hyg Assoc J* 43:887-889.

\*Ameille J, Brechot JM, Brochard P, et al. 1992. Occupational hypersensitivity in a smelter exposed to zinc fumes. *Chest* 101(3):862-863.

\*Amr MM, Abbas EZ, El-Samra GM, et al. 1997. Neuropsychiatric syndromes and occupational exposure to zinc phosphide in Egypt. *Environ Res* 73:200-206.

Amundsen CE, Hanssen JE, Semb A, et al. 1992. Long-range atmospheric transport of trace elements to southern Norway. *Atmos Environ* 26, Part A:1309-1324.

\*Andermann G, Dietz M. 1982. The bioavailability and pharmacokinetics of three zinc salts: Zinc pantothenate, zinc sulfate, and zinc orotate. *Eur J Drug Metab Pharmacokinet* 7:233-239.

## 9. REFERENCES

Andersen O. 1984. Chelation of cadmium. *Environ Health Perspect* 54:249-266.

\*Andersen ME, Clewell HJ III, Gargas ML, et al. 1987. Physiologically based pharmacokinetics and the risk assessment process for methylene chloride. *Toxicol Appl Pharmacol* 87:185-205.

\*Andersen ME, Krishnan K. 1994. Relating *in vitro* to *in vivo* exposures with physiologically based tissue dosimetry and tissue response models. In: Salem H, ed. *Animal test alternatives: Refinement, reduction, replacement*. New York: Marcel Dekker, Inc., 9-25.

Andersen O, Nielsen JB, Sorensen JA, et al. 1994. Experimental localization of intestinal uptake sites for metals (Cd, Hg, Zn, Se) *in vivo* in mice. *Environ Health Perspect* 102:199-206.

\*Anderson C, Danylchuk KD. 1979. The effect of chronic excess zinc administration on the haversian bone remodelling system and its possible relationship to "Itai-Itai" disease. *Environ Res* 20:351-357.

Anderson D, Blowers SD, Marrs TC, et al. 1996. An *in vitro* and an *in vivo* unscheduled DNA synthesis assay with a zinc oxide/hexachloroethane (Zn/HCE) smoke. *Hum Exp Toxicol* 15:38-44.

\*Anderson JR, Aggett FJ, Buseck PR, et al. 1988. Chemistry of individual aerosol particles from Chandler, Arizona, an arid urban environment. *Environ Sci Technol* 22:811-818.

\*Anderson MB, Lepak K, Farinas V, et al. 1993. Protective action of zinc against cobalt induced testicular damage in the mouse. *Reprod Toxicol* 7(1):49-54.

Anderson PR, Christensen TH. 1988. Distribution coefficients of Cd, Co, Ni and Zn in soils. *J Soil Sci* 39:15-22.

Andrews S, Sutherland RA. 2004. Cu, Pb and Zn contamination in Nuuanu watershed, Oahu, Hawaii. *Sci Total Environ* 324(1-3):173-182.

Angelidis MO, Aloupi M. 1995. Metals in sediments of Rhodes Harbor, Greece. *Mar Pollut Bull* 31:276-276.

Anonymous. 1982. Hair zinc in normal populations. *Nutr Rev* 40:74-76.

\*Anonymous. 1983. Illness associated with elevated levels of zinc in fruit punch--New Mexico. *Morb Mortal Wkly Rep* 32:257-258.

Anonymous. 1989. Secondary prevention of coronary disease with lipid lowering drugs. *Lancet* i:473-474.

Anonymous. 2004. Large doses of zinc may increase risk of prostate cancer. *Mayo Clinic Health Letter* 22(5):4.

\*Ansari MS, Miller WJ, Lassiter JW, et al. 1975. Effects of high but nontoxic dietary zinc on zinc metabolism and adaptations in rats. *Proc Soc Exp Biol Med* 150:534-536.

\*Ansari MS, Miller WJ, Neathery MW, et al. 1976. Zinc metabolism and homeostasis in rats fed a wide range of high dietary zinc levels. *Proc Soc Exp Biol Med* 152:192-194.

## 9. REFERENCES

- \*AOAC. 1984. Official methods of analysis of the Association of Official Analytical Chemists. Alexandria, VA: Association of Official Analytical Chemists.
- \*AOAC. 1990. Official methods of analysis of the Association of Official Analytical Chemists. Alexandria, VA: Association of Official Analytical Chemists.
- \*AOAC. 1998. Official methods of analysis of the Association of Official Analytical Chemists. Alexandria, VA: Association of Official Analytical Chemists.
- \*APHA. 1998. Standard methods for the examination of water and wastewater. Washington, DC: American Public Health Association.
- Araki S, Murata K, Uchida E, et al. 1993. Radial and median nerve conduction velocities in workers exposed to lead, copper, and zinc: A follow-up study for 2 years. *Environ Res* 61(2):308-316.
- Araki S, Murata K, Yokoyama K, et al. 1992. Auditory event-related potential (P300) in relation to peripheral nerve conduction in workers exposed to lead, zinc, and copper: Effects of lead on cognitive function and central nervous system. *Am J Ind Med* 21(4):539-547.
- AREDS. 2002. The effect of five-year zinc supplementation on serum zinc, serum cholesterol and hematocrit in persons randomly assigned to treatment group in the age-related eye disease study: AREDS report no. 7. *J Nutr* 132:697-702.
- Argiratos V, Samman S. 1994. The effect of calcium carbonate and calcium citrate on the absorption of zinc in health female subjects. *Eur J Clin Nutr* 48:198-204.
- \*Arnaud J, Favier A. 1995. Copper, iron, manganese and zinc contents in human colostrum and transitory milk of French women. *Sci Total Environ* 159:9-15.
- \*Arnaud J, Favier A, Alary J. 1991. Determination of zinc in human milk by electrothermal atomic-absorption spectrometry. *J Anal Atom Spectrom* 6(8):647-652.
- Arnaud J, Favier A, Herrmann MA, et al. 1992. Effect of folic and folinic acids on zinc intestinal absorption. *Ann Nutr Metab* 36(3):157-161.
- Arnaud J, Preziosi P, Mashako L, et al. 1994. Serum trace elements in Zairian mothers and their newborns. *Eur J Clin Nutr* 48:341-348.
- Artola A, Rigola M. 1992. Selection of optimum biological sludge for zinc removal from wastewater by a biosorption process. *Biotechnol Lett* 14(12):1199-1204.
- ASBC. 1992. American Society of Brewing Chemists, Inc. Zinc in wort and beer by graphite furnace atomic absorption spectroscopy. *Journal of the American Society of Brewing Chemists* 50(4):158-159.
- Aschner M, Conklin DR, Yao CP, et al. 1998. Induction of astrocyte metallothioneins (MTs) by zinc confers resistance against the acute cytotoxic effects of methylmercury on cell swelling, Na<sup>+</sup> uptake, and K<sup>+</sup> release. *Brain Res* 813:254-261.
- Ashraf W, Jaffar M, Mohammad D. 1995. Levels of selected trace metals in hair of urban and rural adult male population of Pakistan. *Bull Environ Contam Toxicol* 54:207-213.

## 9. REFERENCES

- \*Aslam N, McArdle HJ. 1992. Mechanism of zinc uptake by microvilli isolated from human term placenta. *J Cell Physiol* 151(3):533-538.
- \*Aten CF, Bourke JB, Walton JC. 1983. Heavy metal content of rainwater in Geneva, New York during late 1982. *Bull Environ Contam Toxicol* 31:574-581.
- Atik OS. 1983. Zinc and senile osteoporosis. *J Am Geriatr Soc* 31:790-791.
- Attrill MJ, Thomes RM. 1995. Heavy metal concentrations in sediment from the Thames estuary, UK. *Mar Pollut Bull* 30(11):742-744.
- \*Aughey E, Grant L, Furman BL, et al. 1977. The effects of oral zinc supplementation in the mouse. *J Comp Pathol* 87:1-14.
- \*Aulerich RJ, Bursian SJ, Poppenga RH, et al. 1991. Toleration of high concentrations of dietary zinc by mink. *J Vet Diagn Invest* 3:232-237.
- Ayalon O, Nishri A, Avnimelech Y. 1991. Distribution of soluble iron and zinc in leachates of municipal wastes. In: Chen Y, Hadar Y, eds. *Iron nutrition and interactions in plants*. Netherlands: Kluwer Academic Publishers, 53-56.
- Azcue JMP, Pfeiffer WC, Donangelo CM, et al. 1988. Heavy metals in foods from the Paraiba do Sul River Valley, Brazil. *J Food Comp Anal* 1(3):250-258.
- Azizi MR, Rezvan N, Dehpour AR, et al. 2003. Changes in concentration of zinc in urine, serum, and saliva as indices of gentamicin nephotoxicity in male Wistar rats. *Toxicol Lett* 144(suppl 1):s84.
- Babcock AK, Henkin RI, Aamodt RL, et al. 1982. Effects of oral zinc loading on zinc metabolism in humans: II. *In vivo* kinetics. *Metabolism* 31:335-347
- \*Bache CA, Gutenmann WH, Rutske M, et al. 1991. Concentrations of metals in grasses in the vicinity of a municipal refuse incinerator. *Arch Environ Contam Toxicol* 20:538-542.
- Bache CA, Lisk DJ. 1990. Heavy-metal absorption by perennial ryegrass and swiss chard grown in potted soils amended with ashes from 18 municipal refuse incinerators. *J Agric Food Chem* 38:190-194.
- Badsha K, Eduljee G, Scudamore N. 1986. Environmental monitoring for PCB and trace metals in the vicinity of a chemical waste disposal facility: Part III. *Chemosphere* 15:947-957.
- Badsha KS, Goldspink CR. 1988. Heavy metal levels in three species of fish in Tjeukemeer, a Dutch Polder Lake. *Chemosphere* 17:459-463.
- \*Baes CF, Sharp RD. 1983. A proposal for estimation of soil leaching and leaching constants for use in assessment models. *J of Environ Qual* 12:17-28.
- \*Baes CF, Sharp RD, Sjoreen AL, et al. 1984. A review and analysis of parameters for assessing transport of environmentally released radionuclides through agriculture. U.S. Department of Energy, Washington, DC. ORNL-5786, 53-64.
- Bajraktari, Ismet D, Alija, et al. 2004. The effect of zinc chloride and cadmium chloride on genetic loads of *Drosophila melanogaster* viability. *FASEB J* 18(4-5):A1195.

## 9. REFERENCES

- Baker DE, Bowers ME. 1988. Health effects of cadmium predicted from growth and composition of lettuce grown in gardens contaminated by emissions from zinc smelters. Preprint of paper presented at the 22<sup>nd</sup> Annual Conference on Trace Substances in Environmental Health, St. Louis, MO, May 23-26. University Park, PA: The Pennsylvania State University Department of Agronomy, Paper No. 7908, 1-15.
- \*Banu BS, Devi KD, Mahboob M, et al. 2001. *In vivo* genotoxic effect of zinc sulfate in mouse peripheral blood leukocytes using Comet assay. *Drug Chem Toxicol* 24(1):63-73.
- Baranowski J, Norska-Borówka I, Baranowska I. 2002. Determination of heavy metals in the bones and livers of deceased neonatal humans. *Bull Environ Contam Toxicol* 69:1-7.
- \*Barany E, Bergdahl IA, Bratteby L-E, et al. 2002. Relationships between trace element concentrations in human blood and serum. *Toxicol Lett* 134:177-184.
- Barany E, Bergdahl IA, Schutz A, et al. 1997. Inductively coupled plasma mass spectrometry for direct multi-element analysis of diluted human blood and serum. *J Anal Atom Spectrom* 12:1005-1009.
- Barbera R, Farre R, Mesado D. 1991. Determination of cadmium, cobalt, copper, iron, lead, manganese, nickel and zinc in diets: Development of a method. *Nahrung* 35(7):683-687.
- Barceloux DG. 1999. Zinc. *Clin Toxicol* 37(2):279-292.
- Barclay DV, Mauron J, Blondel A, et al. 2003. Micronutrient intake and status in rural Democratic Republic of Congo. *Nutr Res* 23(5):659-671.
- Bargagli R. 2001. Trace metals in Antarctic organisms and the development of circumpolar biomonitoring network. *Rev Environ Contam Toxicol* 171:53-110.
- Bargagli R, Barghigiani C, Siegel BZ, et al. 1991. Trace metal anomalies in surface soils and vegetation on two active island volcanoes. *Sci Total Environ* 102:209-222.
- \*Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk assessments. *Regul Toxicol Pharmacol* 8:471-486.
- Barrett HM, Cunningham JG, Johnston JH. 1939. A study of the fate in the organism of some chlorinated hydrocarbons. *J Ind Hyg Toxicol* 21:479-490.
- \*Barrie LA, Hoff RM. 1985. Five years of air chemistry observations in the Canadian Arctic. *Atmos Environ* 19:1995-2010.
- \*Basta NT, Tabatabai MA. 1990. Ion-chromatographic determination of total metals in soils. *Soil Sci Soc Am J* 54:1289-1297.
- \*Batchelor RP, Fehnel JW, Thomson RM, et al. 1926. A clinical and laboratory investigation of the effect of metallic zinc, of zinc oxide, and of zinc sulphide upon the health of workmen. *J Ind Hyg* 8:322-363.
- Batra N, Nehru B, Bansal MP. 1998. The effect of zinc supplementation on the effects of lead on the rat testis. *Reprod Toxicol* 12(5):535-540.

## 9. REFERENCES

- \*Bauchinger M, Schmid E, Einbrodt HJ, et al. 1976. Chromosome aberrations in lymphocytes after occupational exposure to lead and cadmium. *Mutat Res* 40:57-62.
- Bay BH, Sit KH. 1992. Coarse to fine hair conversion induced by zinc in C57 6J mice. *Tohoku J Exp Med* 168(1):63-66.
- Bay BH, Tan BKH, Sit KH, et al. 1996. Cytochrome P450 content and ultrastructural changes in liver of zinc-treated C57/6J mice. *Pharmacol Res* 34:93-97.
- \*Beavington F. 1975. Heavy metal contamination of vegetables and soil in domestic gardens around a smelting complex. *Environ Pollut* 9:211-217.
- Bebe FN. 2004. Pesticides in the diet modify the retention of calcium, zinc and copper metals in the small intestines. *FASEB J* 18(4-5):A527.
- Bebe FN, Panamangalore M. 1996. Modulation of tissue trace metal concentrations in weanling rats fed different levels of zinc and exposed to oral lead and cadmium. *Nutr Res* 16:1369-1380.
- Beceiro-Gonzalez E, Andrade-Garda JM, Serrano-Velasco E, et al. 1997. Metals in airborne particulate matter in La Coruna (NW Spain). *Sci Total Environ* 196:131-139.
- \*Bedwal RS, Nair N, Mathur RS. 1991. Effects of zinc-deficiency and toxicity on reproductive-organs, pregnancy and lactation - a review. *Trace Elements in Medicine* 8(2):89-100.
- \*Beer WH, Johnson RF, Guentzel MN, et al. 1992. Human placental transfer of zinc: Normal characteristics and role of ethanol. *Alcoholism: Clinical and Experimental Research* 16(1):98-105.
- Belmonte NM, Rivera OE, Herkovits J. 1989. Zinc protection against cadmium effects of preimplantation mice embryos. *Bull Environ Contam Toxicol* 43:107-110.
- Bennett DR, Baird CJ, Chan KM, et al. 1997. Zinc toxicity following massive coin ingestion. *Am J Forensic Med Pathol* 18(2):148-153.
- \*Bentley PJ, Grubb BR. 1991. Experimental dietary hyperzincemia tissue disposition of excess zinc in rabbits. *Trace Elements in Medicine* 8:202-207.
- \*Berger GS. 1994. Epidemiology of endometriosis. In: Berger GS, ed. *Endometriosis: Advanced management and surgical techniques*. New York, NY: Springer-Verlag.
- \*Bergkvist B, Folkesson L, Berggren D. 1989. Fluxes of Cu, Zn, Pb, Cd, Cr, and Ni in temperate forest ecosystems. *Water Air Soil Pollut* 47:217-286.
- \*Bermudez OI, Maras J, Tucker KL. 2003. Differences in food intake of NHANES older adults, by ethnicity and obesity status. *FASEB J* 17(4-5):A284.
- \*Berry WJ, Cantwell MG, Edwards PA, et al. 1999. Predicting toxicity of sediments spiked with silver. *Environ Toxicol Chem* 18(1):40-48.
- \*Berry WJ, Hansen DJ, Mahoney JD, et al. 1996. Predicting the toxicity of metal-spiked laboratory sediments using acid-volatile sulfide and interstitial water normalizations. *Environ Toxicol Chem* 15(12):2067-2079.

## 9. REFERENCES

- Berti WR, Jacobs LW. 1998. Distribution of trace elements in soil from repeated sewage sludge applications. *J Environ Qual* 27:1280-1286.
- Bervoets L, Intpanis L, Verheyen R. 1994. Trace metal levels in water, sediments and chironomus gr. Thummi, from different water courses in Flanders (Belgium). *Chemosphere* 29:1591-1601.
- Beyer WN. 1983. The smoke that settled over Palmerton. *N J Audubon* 9:14-16.
- Beyer WN. 1986. A reexamination of biomagnification of metals in terrestrial food chains. *Environ Toxicol Chem* 5:863-864.
- Beyer WN, Cromartie EJ. 1987. A survey of Pb, Cu, Zn, Cd, Cr, As, and Se in earthworms and soil from diverse sites. *Environ Monit Assess* 8:27-36.
- Beyer WN, Miller GW, Cromartie EJ. 1984. Contamination of the O2 soil horizon by zinc smelting and its effect on woodlouse survival. *J Environ Qual* 13:247-251.
- \*Bibak A, Behrens A, Sturup S, et al. 1998a. Concentration of 55 major trace elements in Danish agricultural crops measured by inductively coupled plasma mass spectrometry. 2. Pea (*Pisum sativum ping pong*). *J Agric Food Chem* 46:3146-3149.
- \*Bibak A, Behrens A, Sturup S, et al. 1998b. Concentrations of 63 major and trace elements in Danish agricultural crops measured by inductively coupled plasma mass spectrometry. 1. Onion (*Allium cepa Hysam*). *J Agric Food Chem* 46:3139-3145.
- \*Bibak A, Sturup S, Haahr V, et al. 1999. Concentrations of 50 major and trace elements in Danish agricultural crops measured by inductively coupled plasma mass spectrometry. 3. Potato (*Solanum tuberosum Folva*). *J Agric Food Chem* 47:2678-2684.
- \*Biddinger GR, Gloss SP. 1984. The importance of trophic transfer in the bioaccumulation of chemical contaminants in aquatic ecosystems. *Residue Rev* 91:103-145.
- \*Biego GH, Joyeux M, Hartemann P, et al. 1998. Daily intake of essential minerals and metallic micropollutants from foods in France. *Sci Total Environ* 217:27-36.
- Bilici M, Yildirim F, Kandil S, et al. 2004. Double-blind, placebo-controlled study of zinc sulfate in the treatment of attention deficit hyperactivity disorder. *Prog Neuro-Psychopharmacol Biol Psychiat* 28(1):181-190.
- Bilski JJ, Alva AK. 1995. Transport of heavy metals and cations in a fly ash amended soil. *Bull Environ Contam Toxicol* 55:502-509.
- Birch G, Siaka M, Owens C. 2001. The source of anthropogenic heavy metals in fluvial sediments of a rural catchment: Coxs River, Australia. *Water Air Soil Pollut* 125:13-35.
- \*Black MR, Medeiros DM, Brunett E, et al. 1988. Zinc supplements and serum lipids in young adult white males. *Am J Clin Nutr* 47:970-975.
- Blain D, Chan HM, Kubow S. 1996. Metallothionein pre-induction by zinc and isotretinoin teratogenicity in CD-1 mice. *Toxicologist* 30:195.

## 9. REFERENCES

- Blain D, Kubow S, Chan HM. 1998. Zinc pretreatment inhibits isotretinoin teratogenicity and induces embryonic metallothionein in CD-1 mice. *J Nutr* 128:1239-1246.
- \*Blanc P, Wong H, Bernstein MS, et al. 1991. An experimental human model of metal fume fever. *Ann Intern Med* 114:930-936.
- Blanusa M, Ivicic N, Simeon V. 1990. Lead, iron, copper, zinc and ash in deciduous teeth in relation to age and distance from a lead smelter. *Bull Environ Contam Toxicol* 45:478-485.
- Blanusa M, Kucak A, Varnai VM, et al. 2001. Uptake of cadmium, copper, iron, manganese, and zinc in mushrooms (*Boletaceae*) from Croatian forest soil. *J AOAC Int* 84:1964-1971.
- Blanusa M, Prester L, Matek M, et al. 1999. Trace elements in soil and coniferous needles. *Bull Environ Contam Toxicol* 62:700-707.
- Bleavins MR, Aulerich RJ. 1981. Feed consumption and food passage time in mink (*Mustela vison*) and European ferrets (*Mustela putomus furo*). *Lab Anim Sci* 31:268.
- \*Bleavins MR, Aulerich RJ, Hochstein JR, et al. 1983. Effects of excessive dietary zinc on the intrauterine and postnatal development of mink. *J Nutr* 113:2360-2367.
- \*Blevins RD, Pancorbo OC. 1986. Metal concentrations in muscle of fish from aquatic systems in east Tennessee, U.S.A. *Water Air Soil Pollut* 29:361-371.
- Blume HP, Brummer G. 1991. Prediction of heavy metal behaviour in soil by means of simple field tests. *Ecotoxicol Environ Safety* 22:164-174.
- \*Bogden JD, Oleske JM, Lavenhar MA, et al. 1988. Zinc and immunocompetence in elderly people: Effects of zinc supplementation for 3 months. *Am J Clin Nutr* 48:655-663.
- \*Bonewitz RF, Voner C, Foulkes EC. 1982. Uptake and absorption of zinc in perfused rat jejunum: The role of endogenous factors in the lumen. *Nutr Res* 2:301-307.
- \*Bonham M, O'Connor JM, Alender HD, et al. 2003a. Zinc supplementation has no effect on circulating levels of peripheral blood leucocytes and lymphocyte subsets in healthy adult men. *Br J Nutr* 89(5):695-703.
- \*Bonham M, O'Connor JM, McAnena LB, et al. 2003b. Zinc supplementation has no effect on lipoprotein metabolism, hemostasis, and putative indices of copper status in healthy men. *Biol Trace Elem Res* 93:2003.
- Boodles D, Burger IH, Whyte AL, et al. 1991. Effects of two levels of zinc intake on growth and trace element status in Labrador puppies. *J Nutr* 121(11):S79-S80.
- \*Boon DY, Soltanpour PN. 1991. Estimating total lead, cadmium and zinc in contaminated soils from ammonium hydrogen carbonate - DTPA-extractable levels. *Commun Soil Science Plant Anal* 22(5):369-378.
- Boon DY, Soltanpour PN. 1992. Lead, cadmium, and zinc contamination of aspen and garden soils and vegetation. *J Environ Qual* 21:82-86.

## 9. REFERENCES

- \*Boosalis MG, Evans GW, McClain CJ. 1983. Impaired handling of orally administered zinc in pancreatic insufficiency. *Am J Clin Nutr* 37:268-271.
- Bos LP, Van Volten WA, Smit AFD, et al. 1977. Zinc deficiency with skin lesions as seen in acrodermatitis enteropathica and intoxication with Zn during parenteral nutrition. *Neth J Med* 20:263.
- \*Bostick BC, Hansel CM, Laforce MJ, et al. 2001. Seasonal fluctuations in zinc speciation within a contaminated wetland. *Environ Sci Technol* 35:3823-3829.
- Bothwell DN, Mair EA, Cable BB. 2003. Chronic ingestion of a zinc-based penny. *Pediatrics* 111(3):176-177.
- Bougle D, Isfaoun A, Bureau F, et al. 1999. Long-term effects of iron: Zinc interactions on growth in rats. *Biol Trace Elem Res* 67:37-48.
- Boukaiba N, Flament C, Archer S, et al. 1993. A physiological amount of zinc supplementation: Effects on nutritional, lipid, and thymic status in an elderly population. *Am J Clin Nutr* 57(4):566-572.
- \*Bourg ACM, Darmendrail D. 1992. Effect of dissolved organic matter and pH on the migration of zinc through river bank sediments. *Environ Technol* 13(7):695-700.
- Boutron CF, Candelone JP, Hong S. 1994. The changing occurrence of natural and man-derived heavy metals in antarctic and Greenland ancient ice and recent snow. *Int J Environ Anal Chem* 55:203-209.
- Boutron CF, Ducroz FM, Gorlach U, et al. 1993. Variations in heavy metal concentrations in fresh Greenland snow from January to August 1989. *Atmos Environ* 27 (Part 1):2773-2779.
- Bowers LJ, Melhuish JH. 1988. Comparison of elemental concentrations in the wood of three tree species growing adjacent to an inactive chromium smelter. *Bull Environ Contam Toxicol* 40:457-461.
- Bradley SB, Cox JJ. 1988. The potential availability of cadmium, copper, iron, lead, manganese, nickel and zinc in standard river sediment (NBS 1645). *Environ Technol Lett* 9:733-739.
- \*Brandao-Neto J, deMendon CA, Shuhama T, et al. 1990a. Zinc acutely and temporarily inhibits adrenal cortisol secretion in humans: A preliminary report. *Biol Trace Elem Res* 24:83-89.
- \*Brandao-Neto J, Vieira JG, Shuhama T, et al. 1990b. Interrelationships of zinc with glucose and insulin metabolism in humans. *Biol Trace Elem Res* 24:73-82.
- Brandao-Neto J, Vieira JG, Shuhama T, et al. 1991. Interaction among zinc, glucose, and insulin in normal individuals during glucose and tolbutamid perfusion. *Biol Trace Elem Res* 28:123-133.
- Bremner I. 1979. The toxicity of cadmium, zinc, and molybdenum and their effects on copper metabolism. *Proc Nutr Soc* 38:235-42.
- \*Brewer GJ. 2000. Recognition, diagnosis, and management of Wilson's disease. *Proc Soc Exp Biol Med* 223:39-46.
- Brewer GJ, Johnson VD, Dick RD, et al. 2000. Treatment of Wilson's disease with zinc. XVII: treatment during pregnancy. *Hepatology* 31:364-370.

## 9. REFERENCES

- Bridges CH, Womack JE, Harris ED, et al. 1984. Considerations of copper metabolism in osteochondrosis of suckling foals. *J Am Vet Med Assoc* 185:173-178.
- Brightwell J, Magaha J, Flinn J, et al. 1999. Enhanced levels of zinc in drinking water adversely affect spatial learning in rats. *Abstr Soc Neurosci* 25:1829.
- Brito G, Diaz C, Galindo L, et al. 1990. Levels of metals in canned meat products: Intermetallic correlations. *Bull Environ Contam Toxicol* 44:309-316.
- Broderick M, Birnbaum K. 2002. Fatal ingestion of zinc phosphide rodenticide. *J Toxicol Clin Toxicol* 40:684.
- \*Bronstein AC, Currance PL, eds. 1988. *Emergency care for hazardous materials exposure*. St. Louis, MO: CV Mosby Company, 111-112, 147-148.
- \*Brooks RR, Presley BJ, Kaplan IR. 1967. APDC-MIBK extraction system for the determination of trace elements in saline waters by atomic-absorption spectrophotometry. *Talanta* 14:809-816.
- Broomhall J, Kovar IZ. 1986. Environmental pollutants in breast milk. *Rev Environ Health* 6(1-4):311-337.
- \*Broun ER, Greist A, Tricot G, et al. 1990. Excessive zinc ingestion: A reversible cause of sideroblastic anemia and bone marrow depression. *JAMA* 264:1441-1443.
- \*Brown JJ. 1988. Zinc fume fever. *Br J Radiol* 61:327-329.
- \*Brown MA, Thom JV, Orth GL, et al. 1964. Food poisoning involving zinc contamination. *Arch Environ Health* 8:657-660.
- Brown S, Chaney R, Hallfrisch J, et al. 2004. In situ soil treatments to reduce the phyto- and bioavailability of lead, zinc, and cadmium. *J Environ Qual* 33(2):522-531.
- \*Bruce BW, McMahon PB. 1996. Shallow ground-water quality beneath a major urban center: Denver, Colorado, USA. *J Hydrol* 186:129-151.
- Bruehler G, Deppeyter AD. 1999. Selenium and other trace metals in pelicans dying at the Salton Sea. *Bull Environ Contam Toxicol* 63:590-597.
- Brugmann L. 1988. Some peculiarities of the trace-metal distribution in Baltic waters and sediments. *Mar Chem* 23:425-440.
- Brumas V, Hacht B, Filella M, et al. 1992. Can N-acetyl-L-cysteine affect zinc metabolism when used as a paracetamol antidote. *Agents Actions* 36(3-4):278-288.
- \*Bruni B, Barolo P, Gamba S, et al. 1986. Case of generalized allergy due to zinc and protamine in insulin preparation. *Diabetes Care* 9:552.
- Brzówska MM, Moniuszko-Jakoniuk J, Jurczuk M, et al. 2001. The effect of zinc supply on cadmium-induced changes in the tibia of rats. *Food Chem Toxicol* 39:729-737.

## 9. REFERENCES

- Buchauer MJ. 1973. Contamination of soil and vegetation near a zinc smelter by zinc, cadmium, copper, and lead. *Environ Sci Technol* 7:131-135.
- Buchter B, Davidoff B, Amacher MC, et al. 1989. Correlation of freundlich  $K_d$  and retention parameters with soils and elements. *Soil Sci* 148(5):370-379.
- Bui LM, Taubeneck MW, Commisso JF, et al. 1998. Altered zinc metabolism contributes to the developmental toxicity of 2-ethylhexanoic acid, 2-ethylhexanol and valproic acid. *Toxicology* 126(1):9-21.
- Bui L, Taubeneck M, Faber W, et al. 1997a. Multiple dosing of 2-ethylhexanoic acid alters maternal zinc (Zn) metabolism and is teratogenic in the rat. *FASEB J* 11:A194.
- Bui LM, Taubeneck MW, Faber WD, et al. 1997b. Altered zinc (Zn) metabolism contributes to the developmental toxicity of 2-ethylhexanoic acid (EHXA) in Sprague-Dawley rats. *Teratology* 55:60.
- \*Bunker VW, Hinks LJ, Stansfield MF, et al. 1987. Metabolic balance studies for zinc and copper in housebound elderly people and the relationship between zinc balance and leukocyte zinc concentrations. *Am J Clin Nutr* 46:353-359.
- \*Bunzl K, Schimmack W. 1989. Association between the fluctuations of the distribution coefficients of Cs, Zn, Sr, Co, Cd, Ce, Ru, Tc and I in the upper two horizons of a Podzol forest soil. *Chemosphere* 18:2109-2120.
- Bunzl K, Trautmannsheimer M, Schramel P. 1999. Partitioning of heavy metals in a soil contaminated by slag: A redistribution study. *J Environ Qual* 28:1168-1173.
- Burd GD. 1993. Morphological study of the effects of intranasal zinc sulfate irrigation on the mouse olfactory epithelium and olfactory bulb. *Microsc Res Tech* 24(3):195-213.
- Burggraaf S, Wilkins AL, Langdon AG, et al. 1997. Heavy metals and organic hydrocarbons in sediments from the Waikareao Estuary, Tauranga Harbour, New Zealand. *Bull Environ Contam Toxicol* 58:871-878.
- \*Burke DM, DeMicco FJ, Taper LJ, et al. 1981. Copper and zinc utilization in elderly adults. *J Gerontol* 36:558-563.
- \*Burkhart KK, Kulig KW, Rumack B. 1990. Whole-bowel irrigation as treatment for zinc sulfate overdose. *Ann Emerg Med* 19:1167-1170.
- Burns LV, Parker GH. 1988. Metal burdens in two species of fiddleheads growing near the ore smelters at Sudbury, Ontario, Canada. *Bull Environ Contam Toxicol* 40:717-723.
- Bury NR, Walker PA, Glover CN. 2003. Nutritive metal uptake in teleost fish. *J Exp Biol* 206(1):11-23
- Butte W, Heinzow B. 2002. Pollutants in house dust as indicators of indoor contamination. *Rev Environ Contam Toxicol* 175:1-46.
- Byerley JJ, Scharer JM. 1992. Natural release of copper and zinc into the aquatic environment. *Hydrometallurgy* 30(1-3):107-126.

## 9. REFERENCES

- \*Cagen SZ, Klaassen CD. 1979. Protection of carbon tetrachloride-induced hepatotoxicity by zinc: Role of metallothionein. *Toxicol Appl Pharmacol* 51:107-116.
- \*Cahill RA, Unger MT. 1993. Evaluation of the extent of contaminated sediments in the west branch of the Grand Calumet River, Indiana-Illinois, USA. *Water Sci Technol* 28:53-58.
- Cai L, Cherian MG. 1996. Adaptive response to ionizing radiation-induced chromosome aberrations in rabbit lymphocytes: Effect of pre-exposure to zinc, and copper salts. *Mutat Res* 369:233-241.
- \*Callender GR, Gentzkow CJ. 1937. Acute poisoning by the zinc and antimony content of limeade prepared in a galvanized iron can. *Military Surgeon* 80:67-71
- Calvery HO. 1941. Trace elements in foods. *Food Research* 7:313-331.
- \*Campbell KR. 1994. Concentrations of heavy metals associated with urban runoff in fish living in stormwater treatment ponds. *Arch Environ Contam Toxicol* 27:352-356.
- Camps J, Bargallo T, Gimenez A, et al. 1992. Relationship between hepatic lipid peroxidation and fibrogenesis in carbon tetrachloride treated rats: Effects of zinc administration. *Clin Sci* 83(6):695-700.
- Camusso M, Vigano L, Balestrini R. 1995. Bioconcentration of trace metals in rainbow trout: a field study. *Ecotoxicol Environ Saf* 31:133-141.
- Cao GH, Chen JD. 1991. Effects of dietary zinc on free-radical generation, lipid-peroxidation, and superoxide dismutase in trained mice. *Arch Biochem Biophys* 291(1):147-153.
- Capar SG, Cunningham WC. 2000. Element and radionuclide concentrations in food: FDA Total Diet Study 1991-1996. *J AOAC Int* 83:157-177.
- Carbery JT. 1978. Osteodysgenesis in a foal associated with copper deficiency. *New Zealand Veterinary Journal* 26:279.
- Carey LC, Berbee PL, Coyle P, et al. 2003. Zinc treatment prevents lipopolysaccharide-induced teratogenicity in mice. *Birth Defects Research Part A* 67(4):240-245.
- Carey LC, Coyle P, Philcox JC, et al. 2003. Zinc supplementation at the time of ethanol exposure ameliorates teratogenicity in mice. *Alcohol Clin Exp Res* 27(1):107-110.
- \*Casassas E, Perez-Vendrell AM, Puignou L. 1991. Improved voltammetric procedure for the determination of zinc, lead cadmium and copper in atmospheric aerosols. *Int J Environ Anal Chem* 45(1):55-63.
- Cassel GH. 1978. Zinc: A review of current trends in therapy and our knowledge of its toxicity. *Del Med J* 50:323-328.
- Castaneda SS. 1999. Simultaneous determination of lead, cadmium and zinc in metro manila air particulates by anodic stripping voltammetry. INIS-PH-004.
- Castet D, Bouillard J. 1992. Acute lung reaction to zinc oxide. *Rev Mal Respir* 9(6):632-633.

## 9. REFERENCES

- Castillo-Duran C, Hertrampf ED, Ruz MO, et al. 2002. Controlled trial of zinc supplementation on growth and body composition in Chilean children from low income groups. *Pediatr Res* 51:188A.
- \*CDC/ATSDR. 1990. Biomarkers of organ damage or dysfunction for the renal, hepatobiliary and immune systems. Atlanta, GA: CDC/ATSDR Subcommittee on Biomarkers of Organ Damage and Dysfunction, Centers for Disease Control, Agency for Toxic Substances and Disease Registry. Summary report, August 27, 1990.
- CELDS. 1993. Computer-aided Environmental Legislative Data Systems. University of Illinois, Urbana, IL. June 23, 1993.
- Celentano JJ, Gyenes M, Gibbs TT, et al. 1991. Negative modulation of the  $\gamma$ -aminobutyric acid response by extracellular zinc. *Mol Pharmacol* 40:766-773.
- Cerklewski FL. 1979. Influence of dietary zinc on lead toxicity during gestation and lactation in the female rat. *J Nutr* 109:1703-1709.
- \*Cerklewski FL, Forbes RM. 1976. Influence of dietary zinc on lead toxicity in the rat. *J Nutr* 106:689-696.
- Chambers JC, Sidle RC. 1991. Fate of heavy metals in an abandoned lead-zinc tailings pond: I. Vegetation. *J Environ Qual* 20:745-751.
- Chan KM. 1995. Concentrations of copper, zinc, cadmium, and lead in rabbitfish (*Siganus oramin*) collected in Victoria Harbour, Hong Kong. *Mar Pollut Bull* 31:277-280.
- \*Chandra RK. 1984. Excessive intake of zinc impairs immune responses. *JAMA* 252:1443-1446.
- Chaney RL. 1985. Potential effects of sludge-borne heavy metals and toxic organics on soils, plants, and animals, and related regulatory guidelines. Annex 3, workshop paper. Vol. 9: Final Report of the Workshop on the International Transportation, Utilization or Disposal of Sewage Sludge Including Recommendations. Washington, DC: Pan American Health Organization. PSNP/85-01.
- Chaney RL. 1988. Metal speciation and interaction among elements affect trace element transfer in agricultural and environmental food-chains. In: Kramer JR, Allen HE, eds. *Metal speciation: Theory, analysis, and application*. Chelsea, MI: Lewis Publishers, 219-260.
- Chaney RL, Bruins RJF, Baker DE, et al. 1987. Transfer of sludge-applied trace elements to the food-chain. In: Page AL, Logan TJ, Ryan JA, eds. *Land application of sludge -- food chain implications*. Ann Arbor, MI: Lewis Publishers Inc., 67-99.
- Chaney RL, Sterrett SB, Mielke HW. 1984. The potential for heavy metal exposure from urban gardens and soils. In: Preer JR, ed. *Proceedings of the Symposium on Heavy Metals in Urban Gardens*. Washington, DC: University of D.C. Extension Service, 37-84.
- Chaney RL, Stoewsand GS, Bache CA, et al. 1978a. Cadmium deposition and hepatic microsomal induction in mice fed lettuce grown on municipal sludge-amended soil. *J Agric Food Chem* 26:992-994.
- Chaney RL, Stoewsand GS, Furr AK, et al. 1978b. Elemental content of tissues of guinea pigs fed Swiss chard grown on municipal sewage sludge-amended soil. *J Agric Food Chem* 26:994-997.

## 9. REFERENCES

- Chang AC, Granato TC, Page AL. 1992. A methodology for establishing phytotoxicity criteria for chromium, copper, nickel, and zinc in agricultural land application of municipal sewage sludges. *J Environ Qual* 21(4):521-536.
- \*Chang AC, Hinesly TD, Bates TE, et al. 1987. Effects of long-term sludge application on accumulation of trace elements by crops. In: Page AL, Logan TJ, Ryan JA, eds. *Land application of sludge -- food chain implications*. Chelsea, MI: Lewis Publishers Inc., 53-66.
- \*Chang CH, Mann DE, Gautieri RF. 1977. Teratogenicity of zinc chloride, 1,10-phenanthroline and zinc-1,10-phenanthroline complex in mice. *J Pharm Sci* 66:1755-1758.
- Chang CY, Chien HF, Jiangshieh YF, et al. 2003. Microglia in the olfactory bulb of rats during postnatal development and olfactory nerve injury with zinc sulfate: A lectin labeling and ultrastructural study. *Neurosci Res* 45(3):325-333.
- Chapman PM, Allen HE, Godfredsen K, et al. 1996. Evaluation of bioaccumulation factors in regulating metals. *Environ Sci Technol* 30:449a-452a.
- Charelsworth M, Service M, Mitchell SH, et al. 1999. Metals in surficial sediments of the north-west Irish Sea. *Bull Environ Contam Toxicol* 62:40-47.
- Chattopadhyay G, Lin KC-P, Feitz AJ. 2003. Household dust metal levels in the Sydney metropolitan area. *Environ Res* 93:301-307.
- Chelani AB, Gajghate DG, Hasan MZ. 2001. Airborne toxic metals in air of Mumbai City, India. *Bull Environ Contam Toxicol* 66:196-205.
- Chen C-J, Liao S-L. 2003a. Neurotrophic and neurotoxic effects of zinc on neonatal cortical neurons. *Neurochem Int* 42(6):471-479.
- Chen C-J, Liao S-L. 2003b. Zinc toxicity on neonatal cortical neurons: involvement of glutathione chelation. *J Neurochem* 85(2):443-453.
- \*Chen M, Ma LQ, Harris WG. 1999. Baseline concentrations of 15 trace elements in Florida surface soils. *J Environ Qual* 28(4):1173-1181.
- Cherian L, Gupta VK. 1992. Spectrophotometric determination of zinc using 4-carboxyphenyl-diazoaminoazobenzene and its application in complex materials. *Chem Anal (Warsaw)* 37(1):69-72.
- Chevalier P. 1995. Zinc and duration of treatment of severe malnutrition. *Lancet* 345:1046-1047.
- Chevreuil M, Carru AM, Chesterikoff A, et al. 1995. Contamination of fish from different areas of the River Seine (France) by organic (PCB and pesticides) and metallic (Cd, Cr, Cu, Fe, Mn, Pb, and Zn) micropollutants. *Sci Total Environ* 162:31-42.
- Chillrud SN, Bopp RF, Simpson HJ, et al. 1999. Twentieth century atmospheric metal fluxes into Central Park Lake, New York City. *Environ Sci Technol* 33(5):657-662.
- \*Chlopecka A, Bacon JR, Wilson MJ, et al. 1996. Heavy metals in the environment. *J Environ Qual* 25:69-79.

## 9. REFERENCES

- Chmielewski J, Jaremin B, Bartnicki C, et al. 1974. Evaluation of occupational exposure to zinc oxide in the marine production shipyard: II. Examination of the state of health of the workers exposed to zinc oxide. *Bull Inst Marit Trop Med Gdynia* 25(1):53-65.
- Chmielnicka J, Sowa B. 1996. Cadmium interaction with essential metals (Zn, Cu, Fe), metabolism metallothionein, and ceruloplasmin in pregnant rats and fetuses. *Ecotoxicol Environ Saf* 35:277-281.
- \*Chmielnicka J, Zareba G, Grabowska U. 1992. Protective effect of zinc on heme-biosynthesis disturbances in rabbits after administration per os of tin. *Ecotoxicol Environ Safety* 24(3):266-274.
- Cho CH, Teh GW. 1991. The inhibitory action of zinc sulfate on the contractile activity of guinea-pig ileum. *J Pharm Pharmacol* 43(4):294-296.
- \*Chobanian SJ. 1981. Accidental ingestion of liquid zinc chloride: Local and systemic effects. *Ann Emerg Med* 10:91-93.
- \*Choi DW, Yokoyama M, Koh J. 1988. Zinc neurotoxicity in cortical cell culture. *Neuroscience* 24:67-79.
- Chovanec A, Vogel WR, Lorbeer G, et al. 1994. Chlorinated organic compounds, PAHs and heavy metals in sediments and aquatic mosses of two upper Austrian rivers. *Chemosphere* 29:2117-2133.
- Christensen JB, Jensen DL, Christensen TH. 1996. Effect of dissolved organic carbon on the mobility of cadmium, nickel and zinc in leachate polluted groundwater. *Water Res* 30:3037-3049.
- Christian P, Katz J, Dominici F, et al. 2004a. Treatment effects of maternal micronutrient supplementation vary by percentiles of the birth weight distribution in Nepal. *FASEB J* 18(4-5):A512.
- Christian P, Shrestha J, LeClerq SC, et al. 2004b. Supplementation with micronutrients in addition to iron and folic acid does not further improve the hematologic status of pregnant women in rural Nepal. *J Nutr* 133(11):3492-3498.
- Chung CS, Nagey DA, Veillon C, et al. 2002. A single 60-mg iron dose decreases zinc absorption in lactating women. *J Nutr* 132:1903-1905.
- \*Ciba J, Zolotajkin M, Cebula J. 1997. Changes of chemical forms of zinc and zinc sulfide during the composting process of municipal solid waste. *Water Air Soil Pollut* 93:167-173.
- \*Clement. 1985. Chemical, physical, and biological properties of compounds present at hazardous waste sites. Final Report to the Office of Waste Programs Enforcement, Office of Solid Waste and Emergency Response, Environmental Protection Agency, Washington, DC, by Clement Associates, Arlington, VA.
- \*Clewell HJ III, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1(4):111-131.
- \*Coale KH, Flegal AR. 1989. Copper, zinc, cadmium and lead in surface waters of lakes Erie and Ontario. *Sci Total Environ* 87/88:297-304.
- Cohen HJ, Powers BJ. 1994. A study of respirable versus nonrespirable copper and zinc oxide exposures at a nonferrous foundry. *Am Ind Hyg Assoc J* 55(11):1047-1050.

## 9. REFERENCES

- Cohen NL, Shulte MJ, Laus MJ. 2004. Dietary intake and nutritional risk in food secure and insecure older food pantry recipients. *FASEB J* 18(4-5):A106.
- Cole KL, Engstrom DR, Futyama RP, et al. 1990. Past atmospheric deposition of metals in northern Indiana measured in a peat core from Cowles Bog. *Environ Sci Technol* 24:543-549.
- \*Cole RH, Frederick RE, Healy RP, et al. 1984. Preliminary findings of the Priority Pollutant Monitoring Project of the Nationwide Urban Runoff Program. *J Water Pollut Control Fed* 56:898-908.
- \*Coleman ME, Elder RS, Basu P. 1992. Trace metals in edible tissues of livestock and poultry. *J Assoc Analyt Chem Int* 75:615-625.
- \*Colin JL, Jaffrezo JL, Gros JM. 1990. Solubility of major species in precipitation: Factors of variation. *Atmos Environ* 24A:537-544.
- \*Colin MA, Taper LJ, Ritchey SJ. 1983. Effect of dietary zinc and protein levels on the utilization of zinc and copper by adult females. *J Nutr* 113:1480-1488.
- Collins RN, Merrington G, McLaughlin MJ, et al. 2002. Uptake of intact zinc-ethylenediaminetetraacetic acid from soil is dependent on plant species and complex concentration. *Environ Toxicol Chem* 21(9):1940-1945.
- Colvin RA, Davis N, Nipper RW, et al. 2000. Zinc transport in the brain: Routes of zinc influx and efflux in neurons. *J Nutr* 130:1484S-1487S.
- \*Connor JJ, Shacklette HT. 1975. Background geochemistry of some rocks, soils, plants, and vegetables in the conterminous United States. Geological Survey Professional Paper 574-F. Washington, DC: U.S. Department of the Interior. F9, F11, F160-161.
- \*Conner MW, Flood WH, Rogers AE, et al. 1988. Lung injury in guinea pigs caused by multiple exposures to ultrafine zinc oxide: Changes in pulmonary lavage fluid. *J Toxicol Environ Health* 25:57-69.
- Conner M, Lam H, Rogers A, et al. 1985. Lung injury in guinea pigs caused by multiple exposures to submicron zinc oxide mixed with sulfur dioxide in a humidified furnace. *J Toxicol Environ Health* 16:101-114.
- \*Coogan TP, Bare RM, Waalkes MP. 1992. Cadmium-induced DNA strand damage in cultured liver cells: Reduction in cadmium genotoxicity following zinc pretreatment. *Toxicol Appl Pharmacol* 113:227-233.
- \*Cooke JA, Andrews SM, Johnson MS. 1990. The accumulation of lead, zinc, cadmium and fluoride in the wood mouse (*Apodemus sylvaticus* L.). *Water Air Soil Pollut* 51:55-63.
- Cosma G, Fulton H, Defeo T, et al. 1992. Rat lung metallothionein and heme oxygenase gene expression following ozone and zinc oxide exposure. *Toxicol Appl Pharmacol* 117(1):75-80.
- Cossack ZT, Rojhani A, Musaiger AO. 1992. The effects of sugar beet fiber supplementation for 5 weeks on zinc, iron and copper status in human subjects. *Eur J Clin Nutr* 46(3):221-225.

## 9. REFERENCES

- Costello LC, Franklin RB, Feng P, et al. 2004. Re: Zinc supplement use and risk of prostate cancer. *J Natl Cancer Inst* 96(3):239-241.
- \*Cotran RS, Kumar V, Robbins SL. 1989. Robbins pathologic basis of disease. 4th ed. Philadelphia, PA: W.B. Saunders Company, 461.
- \*Couillard D, Chartier M, Mercier G. 1994. Major factors influencing bacterial leaching of heavy metals (Cu and Zn) from anaerobic sludge. *Environ Pollut* 85:175-184.
- \*Cousins RJ. 1985. Absorption, transport, and hepatic metabolism of copper and zinc: Special reference to metallothionein and ceruloplasmin. *Physiol Rev* 65:238-309.
- Couzy F, Mansourian R, Labate A, et al. 1998. Effect of dietary phytic acid on zinc absorption in the healthy elderly, as assessed by serum concentration curve tests. *Br J Nutr* 80:177-182.
- Cox D, Harris D. 1960. Effect of excess dietary zinc on iron and copper in the rat. *J Nutr* 70:514-520.
- \*Cox DH, Schlicker SA, Chu RC. 1969. Excess dietary zinc for the maternal rat, and zinc, iron, copper, calcium and magnesium content and enzyme activity in maternal and fetal tissues. *J Nutr* 98:459-466.
- \*Crawford DW, Bonnevie NL, Wenning RJ. 1995. Sources of pollution and sediment contamination in Newark Bay, New Jersey. *Ecotoxicol Environ Saf* 30:85-100.
- Crebelli R, Paoletti A, Falcone E, et al. 1985. Mutagenicity studies in a tyre plant: In vitro activity of workers' urinary concentrates and raw materials. *Br J Ind Med* 42:481-487.
- Cuajungco MP, Lees GJ. 1997. Zinc metabolism in the brain: Relevance to human neurodegenerative disorders. *Neurobiol Dis* 4:137-169.
- Cullumbine H. 1957. The toxicity of screening smokes. *J Army Med Corps* 103:109-122.
- Culshaw C, Newton LC, Weir I, et al. 2002. Concentrations of Cd, Zn and Cu in sediments and brown shrimp (*Crangon crangon* L.) from the Severn Estuary and Bristol Channel, UK. *Mar Environ Res* 54:331-334.
- \*Cunningham-Rundles S, Bockman RS, Lin A, et al. 1990. Physiological and pharmacological effects of zinc on immune response. *Ann NY Acad Sci* 587:113-122.
- Cyr F, Mehra MC, Mallet VN. 1987. Leaching of chemical contaminants from a municipal landfill site. *Bull Environ Contam Toxicol* 38:775-782.
- \*Czerwinski AW, Clark M, Serafetinides EA, et al. 1974. Safety and efficacy of zinc sulfate in geriatric patients. *Clin Pharmacol Ther* 15:436-441.
- \*Daisey JM. 1987. Chemical composition of inhalable particulate matter- seasonal and intersite comparisons. In: Lioy PJ, Daisey JM, eds. Toxic air pollution: A comprehensive study of non-criteria air pollutants. Chelsea, MI: Lewis Publishing Inc., 47-63.
- Dannecker W, Schroeder B, Stechmann H. 1990. Organic and inorganic substances in highway tunnel exhaust air. *Sci Total Environ* 93:293-300.

## 9. REFERENCES

- \*Dasch JM, Wolff GT. 1989. Trace inorganic species in precipitation and their potential use in source apportionment studies. *Water Air Soil Pollut* 43:401-412.
- Dassenakis M, Degaita A, Scoullou M. 1995. Trace metals in sediments of a Mediterranean estuary affected by human activities (Acheloos River Estuary, Greece). *Sci Total Environ* 168:19-31.
- \*Davidson CI, Goold WD, Mathison TP, et al. 1985. Airborne trace elements in Great Smoky Mountains, Olympic, and Glacier National Parks. *Environ Sci Technol* 19(1):27-34.
- Davidson CI, Lin S, Osborn JF, et al. 1986. Indoor and outdoor air pollution in the Himalayas. *Environ Sci Technol* 20:561-567.
- Davidsson L, Almgren A, Sandstrom B, et al. 1996. Zinc absorption in adult humans: The effect of protein sources added to liquid test meals. *Br J Nutr* 75:607-613.
- Davies J. 1984. Lung cancer mortality among workers making lead chromate and zinc chromate pigments at three English factories. *Br J Ind Med* 41:158-169.
- \*Davies NT. 1980. Studies on the absorption of zinc by rat intestine. *Br J Nutr* 43:189-203.
- \*Davies NT, Nightingale R. 1975. The effects of phytate on intestinal absorption and secretion of zinc, and whole body retention of Zn, copper, iron and manganese in rats. *Br J Nutr* 34:243-258.
- \*Davis AP, Shokouhian M, Ni S. 2001. Loading estimates of lead, copper, cadmium, and zinc in urban runoff from specific sources. *Chemosphere* 44:997-1009.
- \*Davis CD, Milne DB, Nielsen FH. 2000. Changes in dietary zinc and copper affect zinc-status indicators of postmenopausal women, notably, extracellular superoxide dismutase and amyloid precursor proteins. *Am J Clin Nutr* 71:781-788.
- \*Dawson GW, Mercer BW. 1986. Hazardous waste management. New York, NY: John Wiley & Sons, 328-412.
- Dean CE, Hargis BM, Hargis PS. 1991. Effects of zinc toxicity on thyroid function and histology in broiler chicks. *Toxicol Lett* 57(3):309-318.
- Deknudt GH. 1982. [Clastogenic effects of zinc in mammals.] *C R Seances Soc Biol Fil* 176:563-567. (French)
- \*Deknudt GH, Deminatti M. 1978. Chromosome studies in human lymphocytes after *in vitro* exposure to metal salts. *Toxicology* 10:67-75.
- \*Deknudt G, Gerber GB. 1979. Chromosomal aberrations in bone-marrow cells of mice given a normal or a calcium-deficient diet supplemented with various heavy metals. *Mutat Res* 68:163-168.
- \*Delafuente JC. 1991. Nutrients and immune responses. *Rheum Dis Clin North Am* 17(2):203-212.
- \*Delves HT. 1981. The analysis of biological and clinical materials. *Progress in Analytical Atomic Spectroscopy* 4:1-48.

## 9. REFERENCES

- \*de Oliveira FS, Viana MR, Antonioli AR, et al. 2001. Differential effects of lead and zinc on inhibitory avoidance learning in mice. *Braz J Med Biol Res* 34:117-120.
- De Schrijver R, Conrad S. 1992. Availability of calcium, magnesium, phosphorus, iron, and zinc in rats fed oat bran containing diets. *J Agric Food Chem* 40(7):1166-1171.
- Deverel SJ, Millard SP. 1988. Distribution and mobility of selenium and other trace elements in shallow groundwater of the western San Joaquin Valley, California. *Environ Sci Technol* 22(6):697-702.
- Devevey E, Bitton G, Rossel D, et al. 1993. Concentration and bioavailability of heavy metals in sediments in Lake Yojoa (Honduras). *Bull Environ Contam Toxicol* 50:253-259.
- Dewet LPD, Schoonbee HJ, Pretorius J, et al. 1990. Bioaccumulation of selected heavy metals by the water fern, *Azolla filiculoides* Lam. in a wetland ecosystem affected by sewage, mine and industrial pollution. *Water South Africa* 16(4):281-286.
- Dhawan D, Goel A. 1995. Further evidence for zinc as a hepatoprotective agent in rat liver toxicity. *Exp Mol Pathol* 63:110-117.
- DHHS. 1986. Nutrition monitoring in the United States: A progress report from the Joint Nutrition Monitoring Evaluation Committee. U.S. Department of Health and Human Services, Public Health Service. DHHS publication No. (PHS) 86-1255.
- Dho NY, Lee SR. 2003. Effect of temperature on single and competitive adsorptions of Cu (II) and Zn (II) onto natural clays. *Environ Monit Assess* 83(2):117-203.
- Diaz C, Galindo L, Garciamontelongo F. 1994. Distribution of metals in some fishes from Santa Cruz De Tenerife, Canary Islands. *Bull Environ Contam Toxicol* 52:374-381
- Diaz C, Galido L, Montelongo FG, et al. 1990. Metals in coastal waters of Santa Cruz De Tenerife, Canary Islands. *Mar Pollut Bull* 13:217-218.
- Diaz-Gomez NM, Domenech E, Barroso F, et al. 2003. The effect of zinc supplementation on linear growth, body composition, and growth factors in preterm infants. *Pediatrics* 111(5):1002-1009.
- Dineley KE, Malaiyandi LM, Filiano AJ, et al. 2004. Evidence for a bidirectional relationship between intracellular zinc and reactive oxygen species. *J Neurochem* 85(1):64.
- Dineley KE, Scanlon JM, Kress GJ, et al. 2000. Astrocytes are more resistant than neurons to the cytotoxic effects of increased  $[Zn^{2+}]_i$ . *Neurobiol Dis* 7:310-320.
- Dineley KE, Votyakova TV, Reynolds IJ. 2003. Zinc inhibition of cellular energy production: implications for mitochondria and neurogeneration. *J Neurochem* 85(3):563-570.
- \*Di Toro DM, Mahoney JD, Hansen DJ, et al. 1992. Acid volatile sulfide predicts the acute toxicity of cadmium and nickel in sediments. *Environ Sci Technol* 26:96-101.
- \*DOI. 1988. The mineral commodity summaries. Washington, DC: Department of the Interior, Bureau of Mines, 180-181.

## 9. REFERENCES

- \*DOI. 1991. U.S. Department of the Interior Minerals Yearbook. Washington, DC: Bureau of Mines, 1145-1174.
- Doganoc DZ. 1996. Distribution of lead, cadmium, and zinc in tissues of hens and chickens from Slovenia. *Bull Environ Contam Toxicol* 57:932-937.
- Doherty CP, Sarkar MAK, Shakur MS, et al. 1998. Zinc and rehabilitation from severe protein-energy malnutrition: Higher-dose regimens are associated with increased mortality. *Am J Clin Nutr* 68:742-748.
- Domingo JL. 1994. Metal-induced development toxicity in mammals: A review. *J Toxicol Environ Health* 42:123-141.
- \*Domingo JL, Llobet JM, Colomina MT, et al. 1988b. The removal of zinc from the mouse by polyamincarboxylic acids (CDTA and DTPA) following semichronic zinc ingestion. *Vet Hum Toxicol* 30:524-527.
- \*Domingo JL, Llobet JM, Paternain JL, et al. 1988a. Acute zinc intoxication: Comparison of the antidotal efficacy of several chelating agents. *Vet Hum Toxicol* 30:224-228.
- Donaldson J, St. Pierre T, Minnich J, et al. 1971. Seizures in rats associated with divalent cation inhibition of Na<sup>+</sup>-K<sup>+</sup>-ATPase. *Can J Biochem* 49:1217-1224.
- Donangelo CM, Woodhouse LR, King SM, et al. 2002. Supplemental zinc lowers measures of iron status in young women with low iron reserves. *J Nutr* 132:1860-1864.
- \*Donat JR, Bruland KW. 1990. A comparison of two voltammetric techniques for determining zinc speciation in Northeast Pacific ocean waters. *Mar Chem* 28:301-323.
- \*Dorea JG. 2002. Zinc and copper in breast-milk and home-prepared milk fed to urban infants from low-income families. *J Trace Elem Exp Med* 15:123-129.
- \*Dorn CR, Pierce JO, Phillips PE, et al. 1976. Airborne Pb, Cd, Zn and Cu concentration by particle size near a Pb smelter. *Atmos Environ* 10:443-446.
- Dowdy RH, Latterell JJ, Hinesly TD, et al. 1991. Trace metal movement in an aeric ochraqualf following 14 years of annual sludge applications. *J Environ Qual* 20:119-123.
- Dragnev K, Yanchev I, Angelov L. 1991. Use of some indicative fodder plants and animal organs as a criterion for evaluation of the degree of pollution with copper and zinc in industrial regions. *Proc Int Congr Meat Sci Technol* 37th, 1244-1247.
- \*Drinker K, Drinker P. 1928. Metal fume fever: V. Results of the inhalation by animals of zinc and magnesium oxide fumes. *J Ind Hyg* 10:56-70.
- \*Drinker P, Thomson RM, Finn JL. 1927a. Metal fume fever: II. Resistance acquired by inhalation of zinc oxide on two successive days. *J Ind Hyg* 9:98-105.
- \*Drinker P, Thomson RM, Finn JL. 1927b. Metal fume fever: IV. Threshold doses of zinc oxide, preventive measures, and the chronic effects of repeated exposures. *J Ind Hyg* 9:331-345.

## 9. REFERENCES

- \*Drinker KR, Thompson PK, Marsh M. 1927c. An investigation of the effect upon rats of long-continued ingestion of zinc compounds, with especial reference to the relation of zinc excretion to zinc intake. *Am J Physiol* 81:284-306.
- \*Drinker KR, Thompson PK, Marsh M. 1927d. An investigation of the effect of long-continued ingestion of zinc, in the form of zinc oxide, by cats and dogs, together with observations upon the excretion and the storage of zinc. *Am J Physiol* 80:31-64.
- \*DuBray ES. 1937. Chronic zinc intoxication: An instance of chronic zinc poisoning from zinc chloride used in the pillow manufacturing industry. *JAMA* 108:383-385.
- \*Duce RA, Hoffman GL, Zoller WH. 1975. Atmospheric trace metals at remote northern and southern hemisphere sites: Pollution or natural? *Science* 187:59-61.
- \*Duchateau J, Delepresse G, Vrijens R, et al. 1981. Beneficial effects of oral zinc supplementation on the immune response of old people. *Am J Med* 70:1001-1004.
- \*Dudka S, Chlopecka A. 1990. Effect of solid-phase speciation on metal mobility and phytoavailability in sludge-amended soil. *Water Air Soil Pollut* 51:153-160.
- Dudka S, Ponce-Hernandez R, Tate G, et al. 1996. Forms of Cu, Ni, and Zn in soils of Sudbury, Ontario and the metal concentrations in plants. *Water Air Soil Pollut* 90:531-542.
- Duffy JY, Baines D, Keen CL, et al. 1997. Developmental outcome of metallothionein-null mice fed various levels of zinc during gestation. *Teratology* 55:54.
- \*Duncan JR, Dreosti IE. 1975. Zinc intake, neoplastic DNA synthesis and chemical carcinogenesis in rats and mice. *J Natl Cancer Inst* 55:195-196.
- Dybczynski R, Boboli K. 1976. Forensic and environmental aspects of neutron activation analysis of single human hairs. *J Radioanal Chem* 31:267-289.
- Eamens GJ, Macadam JF, Laing EA. 1984. Skeletal abnormalities in young horses associated with zinc toxicity and hypocuprosis. *Aust Vet J* 61:205-207.
- Eary LE, Rai D, Mattigod SV, et al. 1990. Geochemical factors controlling the mobilization of inorganic constituents from fossil fuel combustion residues: II. Review of the minor elements. *J Environ Qual* 19:202-214.
- Ecker FJ, Hirai E, Chohji T. 1990. Airborne trace metals in snow on the Japan sea side of Japan. *Atmos Environ* 24a:2593-2600.
- Eduljee G, Badsha K, Price L. 1985. Environmental monitoring for PCB and heavy metals in the vicinity of a chemical waste disposal facility: Part I. *Chemosphere* 14:1371-1382.
- Eduljee G, Badsha K, Scudamore N. 1986. Environmental monitoring for PCB and heavy metals in the vicinity of a chemical waste disposal: Part II. *Chemosphere* 15:81-93.
- Eisenberg M, Topping JJ. 1986. Trace metal residues in fin fish from Maryland waters, 1978-1979. *J Environ Sci Health B* 21:87-102.

## 9. REFERENCES

- \*Elder JF, Mattraw HC Jr. 1984. Accumulation of trace elements, pesticides, and polychlorinated biphenyls in sediments and the clam *Corbicula manilensis* of the Apalachicola River, Florida. *Arch Environ Contam Toxicol* 13:453-470.
- El-Gazzar RM, Finelli VN, Boiano J, et al. 1978. Influence of dietary zinc on lead toxicity in rats. *Toxicol Lett* 1:227-234.
- \*Elinder CG. 1986. Zinc. In: Friberg L, Nordberg FF, Vouk V, eds. *Handbook on the toxicology of metals*. Vol. II. New York, NY: Elsevier Science Publishers B.V., 664-679.
- Elkin BT, Bethke RW. 1995. Environmental contaminants in caribou in the Northwest Territories, Canada. *Sci Total Environ* 161:307-321.
- \*Ellenhorn MJ, Barceloux DG. 1988. *Medical toxicology: Diagnosis and treatment of human poisoning*. New York, NY: Elsevier, 879-880, 1064-1065.
- Elliott JE, Scheuhammer AM. 1997. Heavy metal and metallothionein concentrations in seabirds from the Pacific coast of Canada. *Mar Pollut Bull* 34:794-800.
- Elliot JE, Scheuhammer AM, Leighton FA, et al. 1992. Heavy metal and metallothionein concentrations in Atlantic Canadian seabirds. *Arch Environ Contam Toxicol* 22:63-73.
- \*Ellis R, Morris ER, Hill AD, et al. 1997. Selected mineral intakes of adult African-Americans in the Washington, DC area. *J Food Comp Anal* 10:334-342.
- Ellis TM, Masters HG, Mayberry C. 1984. Examination of the susceptibility of different breeds of sheep to zinc intoxication. *Aust Vet J* 61:296-298.
- El-Sammak A. 2001. Heavy metal pollution in bottom sediment, Dubai, United Arab Emirates. *Bull Environ Contam Toxicol* 67:295-302.
- El-Sammak AA, Aboul-Kassim TA. 1999. Metal pollution in the sediments of Alexandria region, southeastern Mediterranean, Egypt. *Bull Environ Contam Toxicol* 63:263-270.
- \*Elson CM, Bem EM, Ackman RG. 1981. Determination of heavy metals in a menhaden oil after refining and hydrogenation using several analytical methods. *J Am Oil Chem Soc* 58:1024-1026.
- Ely JC, Neal CR, Kulpa CF, et al. 2001. Implications of platinum-group element accumulation along U.S. roads from catalytic-converter attrition. *Environ Sci Technol* 35:3816-3822.
- Endo T, Kimura O, Hatakeyama M, et al. 1997. Effects of zinc and copper on cadmium uptake by brush border membrane vesicles. *Toxicol Lett* 91:111-120.
- EPA. 1973. Basic zinc sulfate; tolerances for residues. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 180.244.
- EPA. 1979a. National secondary drinking water regulations. U.S. Environmental Protection Agency. Fed Regist 44:42198. 40 CFR 143.
- EPA. 1979b. Criteria and standards for the National Pollutant Discharge Elimination System. U.S. Environmental Protection Agency. Fed Regist 44:32948-32956. 40 CFR 125.

## 9. REFERENCES

\*EPA. 1979c. Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory. EPA600479020.

\*EPA. 1979d. Water-related environmental fate of 129 priority pollutants. Washington, DC: U.S. Environmental Protection Agency, Office of Water Planning and Standards. EPA440479029a.

EPA. 1980a. Identification and listing of hazardous waste; discarded commercial chemical products, off-specification species, container residues, and spill residues thereof. U.S. Environmental Protection Agency. Fed Regist 45:33125. 40 CFR 261.33(e).

EPA. 1980b. Identification and listing of hazardous waste: Appendix VIII. Hazardous constituents. U.S. Environmental Protection Agency. Fed Regist 45:33133 40 CFR 261.

\*EPA. 1980c. Ambient water quality criteria for zinc. Washington, DC: U.S. Environmental Protection Agency, Office of Water Regulations and Standards. EPA440580079. PB81117897.

\*EPA. 1980d. Exposure and risk assessment for zinc. Washington, DC: U.S. Environmental Protection Agency, Office of Water Regulations and Standards (WH-553). EPA440481016. PB85212009.

EPA. 1980e. Guidelines and methodology used in the preparation of health effect assessment chapters of the consent decree water criteria documents. U.S. Environmental Protection Agency. Fed Regist 45:79347-79357.

EPA. 1981. Toxic pollutants. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 401.15.

EPA. 1982. Compilation of and commentary on existing methodologies and guidelines relating to "risk assessments for complex mixtures." Cincinnati, OH: U.S. Environmental Protection Agency, Environmental Criteria and Assessment Office. SRC TR-82-544.

EPA. 1983. EPA administered permit programs: The National Pollutant Discharge Elimination System. General permits. U.S. Environmental Protection Agency. Fed Regist 48:14153-14178.

EPA. 1984a. Identification and listing of hazardous waste; discarded commercial chemical products, off-specification species, container residues, and spill residues thereof. U.S. Environmental Protection Agency. Fed Regist 49:19923. 40 CFR 261.33(f).

\*EPA. 1984b. Health effects assessment for zinc (and compounds). Washington, DC: U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. EPA540186048.

EPA. 1984c. Contract laboratory program statement of work--inorganic analysis. Washington, DC: U.S. Environmental Protection Agency, Contract Laboratory Program. SOW 784.

EPA. 1984d. Air quality data for metals 1977 through 1979 from the National Air Surveillance Networks. Research Triangle Park, NC: U.S. Environmental Protection Agency. EPA600S483053.

EPA. 1985a. Designation, reportable quantities and notification; designation of hazardous substances. U.S. Environmental Protection Agency. Fed Regist 50:13500 40. CFR 302.4.

## 9. REFERENCES

- EPA 1985b. Measurement of cadmium, lead, zinc, and calcium in selected populations in the United States. Research Triangle Park, NC: U.S. Environmental Protection Agency. EPA600184021.
- \*EPA. 1986a. General pretreatment regulations for existing and new sources. U.S. Environmental Protection Agency. Fed Regist 51:20429. 40 CFR 403.
- EPA. 1986b. Designation, reportable quantities, and notification; designation of hazardous substances. U.S. Environmental Protection Agency. Fed Regist 51:34533. 40 CFR 302.4.
- EPA. 1986c. Inventory reporting regulations, partial updating of the inventory data base. U.S. Environmental Protection Agency. Fed Regist 51:21447-21450. 40 CFR 710.
- EPA. 1986d. Test methods for evaluating solid waste. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. SW-846.
- EPA. 1987a. Toxic chemical release reporting; community right-to-know. U.S. Environmental Protection Agency. Fed Regist 52:21152-21208.
- EPA. 1987b. Emergency planning and notification: Appendix A. The list of extremely hazardous substances and their threshold planning quantities. U.S. Environmental Protection Agency. Fed Regist 52:13403 40 CFR 355.
- \*EPA. 1987c. Ambient water quality criteria for zinc--1987. Washington, DC: U.S. Environmental Protection Agency, Office of Water Regulations and Standards. EPA440587003. PB87153581.
- \*EPA. 1987d. Summary review of the health effects associated with zinc and zinc oxide: Health issue assessment. Research Triangle Park, NC: U.S. Environmental Protection Agency, Environmental Criteria and Assessment Office. EPA600887022F.
- EPA. 1988a. General pretreatment regulations for existing and new sources of pollution. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 403.
- EPA. 1988b. National Priorities Listing Technical Data Base. Washington, DC: U.S. Environmental Protection Agency, National Priorities Listing.
- EPA. 1988c. Recommendations for and documentation of biological values for use in risk assessment. Cincinnati, OH: U.S. Environmental Protection Agency. EPA600687008. PB88179874.
- EPA. 1989a. Designation of hazardous substances. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 116.4.
- EPA. 1989b. Designation of hazardous substances. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 302.4.
- EPA. 1989c. Health effects assessment summary tables: Second quarter FY 1989. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response.
- \*EPA. 1990a. Interim methods for development of inhalation reference concentrations. Washington, DC: U.S. Environmental Protection Agency. EPA600890066A.

## 9. REFERENCES

- EPA. 1990b. Emergency planning and notification: Appendix A - The list of extremely hazardous substances and their threshold planning quantities. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 355, Appendix A.
- EPA. 1991a. Hazardous constituents. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 261, Appendix VIII.
- EPA. 1991b. National secondary drinking water regulations. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 143.
- EPA. 1991c. Pesticide tolerances for zinc phosphide. U.S. Environmental Protection Agency. Fed Regist 56(233):63467-63468.
- EPA. 1991d. Toxic chemical release reporting: Community right-to-know. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 372.
- \*EPA. 1994. Methods for the determination of metals in environmental samples: Supplement 1. U.S. Environment Protection Agency. EPA600R94111. <http://www.nemi.gov>. August 5, 2003.
- EPA. 1995. Engineering Forum Issue: Determination of background concentrations of inorganics in soils and sediments at hazardous waste sites. Office of Research and Development, Office of Solid Waste and Emergency Response. EPA540S96500.
- \*EPA. 1996. EPA method guidance CD-ROM: Includes MCAWW methods and most current EPA methods. U.S. Environment Protection Agency. <http://www.nemi.gov>. August 5, 2003.
- \*EPA. 1997. Special report on environmental endocrine disruption: An effects assessment and analysis. Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. EPA630R96012.
- \*EPA. 2000. Test methods for evaluating solid waste, physical/chemical methods, online EPA publication SW-846. <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>. July 25, 2003.
- \*EPA. 2002. 2002 edition of the drinking water standards and health advisories. Washington, DC: EPA822R02038.
- \*EPA. 2003a. Criteria for municipal solid waste landfills. List of hazardous inorganic and organic constituents. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 258, Appendix II. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003b. Designation, reportable quantities, and notification. Designation of hazardous substance. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 302.4. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003c. Effluent guidelines and standards. General provisions. Toxic pollutants. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 401.15. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003d. Land disposal restrictions. Universal treatment standards. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 268.48. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

## 9. REFERENCES

- \*EPA. 2003e. National emission standards for hazardous air pollutants. List of pollutants. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 61.01. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003f. National secondary drinking water regulations. Secondary maximum contaminant levels. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 143.3. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003g. Reportable quantities of hazardous substances designated pursuant to Section 311 of the Clean Water Act. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 117.3. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003h. Standards for owners and operators of hazardous waste treatment, storage, and disposal facilities. Ground-water monitoring list. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 264, Appendix IX. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003i. Tolerance and exemptions from tolerance for pesticide chemicals in food. Mancozeb; tolerances for residues. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 180.176. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003j. Toxic chemical release reporting: Community right-to-know. Chemicals and chemical categories to which this part applies. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 372.65. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003k. Water programs. Designation of hazardous substances. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 116.4. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- \*EPA. 2003l. Water quality guidance for the Great Lakes system. Pollutants of initial focus in the Great Lakes water quality initiative. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 132, Table 6. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.
- Ertekin MV, Koc M, Karslioglu I, et al. 2004. Zinc sulfate in the prevention of radiation-induced oropharyngeal mucositis: A prospective, placebo-controlled, randomized study. *Int J Radiat Oncol Biol Phys* 58(1):167-174.
- Esenin AV, Ma WC. 2000. Heavy metals (Cd, Cu, Zn) in wood and wood-feeding insects and other invertebrates associated with decaying pine trees. *Bull Environ Contam Toxicol* 64:242-249.
- Esparza-Gonzalez BP, Nino-Fong R, Fuentealba I, et al. 2003. Zinc supplementation may decrease hepatic copper accumulation in LEC rat: A model of Wilson's disease. *Toxicol Sci* 72(S-1):402.
- Evangelou A, Kalfakakou V. 1993. Electrocardiographic alterations induced by zinc ions on isolated guinea pig heart preparations. *Biol Trace Elem Res* 36(2):203-208.
- \*Evans EH. 1945. Casualties following exposure to zinc chloride smoke. *Lancet* 249:368-370.
- \*Evans GW. 1980. Normal and abnormal zinc absorption in man and animals: The tryptophan connection. *Nutr Rev* 38:137-141.

## 9. REFERENCES

- \*Evans GJ, Tan PV. 1998. The fate of elements in residential composters. *Arch Environ Contam Toxicol* 34:323-329.
- \*Evenson DP, Emerick RJ, Jost LK, et al. 1993. Zinc-silicon interactions influencing sperm chromatin integrity and testicular cell-development in the rat as measured by flow cytometry. *J Anim Sci* 71(4):955-962.
- Ewing CI, Gibbs ACC, Ashcroft C, et al. 1991. Failure of oral zinc supplementation in atopic eczema. *Eur J Clin Nutr* 45(10):507-510.
- Fahim MS, Wang M, Sutcu MF, et al. 1993. Sterilization of dogs with intraepididymal injection of zinc arginine. *Contraception* 47(1):107-122.
- \*Failla ML, Cousins RJ. 1978. Zinc accumulation and metabolism in primary cultures of adult rat liver cells: Regulation by glucocorticoids. *Biochem Biophys Acta* 543:293-304.
- Fairweather-Tait SJ. 1995. Iron-zinc and calcium-Fe interactions in relation to Zn and Fe absorption. *Proc Nutr Soc* 54:465-473.
- \*Falin LI, Gromzowa KE. 1939. Experimental teratoma testis in fowl produced by injection of zinc sulphate solution. *Am J Cancer* 36:233-236.
- \*Fan J, Luo C, Wang S. 1991. Determination of zinc in bloodstain by atomic-absorption spectrometry. *Atomic Spectroscopy* 12(6):212-214.
- Fan W, Wang W, Chen J. 2002. Geochemistry of Cd, Cr, and Zn in highly contaminated sediments and its influences on assimilation by marine bivalves. *Environ Sci Technol* 36:5164-5171.
- Farinati F, Cardin R, D'Inca R, et al. 2003. Zinc treatment prevents lipid peroxidation and increases glutathione availability in Wilson's disease. *J Lab Clin Med* 141(6):372-377.
- Farrah H, Pickering WF. 1993. Factors influencing the potential mobility and bioavailability of metals in dried lake sediments. *Chem Speciat Bioavail* 5(3):81-96.
- \*Farrell FJ. 1987. Angioedema and urticaria as acute and late phase reactions to zinc fume exposure, with associated metal fume fever-like symptoms. *Am J Ind Med* 12:331-337.
- \*FDA. 1987a. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 73.1991.21 CFR 73.2991.
- \*FDA. 1987b. Indirect food additives: Adhesives and components of coatings. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 175.105.
- \*FDA. 1987c. Resinous and polymeric coatings. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 175.300.
- \*FDA. 1987d. Rubber articles intended for repeated use. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 177.2600.
- \*FDA. 1987e. Substances migrating from cotton and cotton fabrics used in dry food packaging. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 182.70.

## 9. REFERENCES

- \*FDA. 1987f. Substances migrating to food from paper and paperboard products. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 182.90.
- \*FDA. 1987g. Zinc chloride. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 182.5985.
- \*FDA. 1987h. Zinc oxide. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 182.5991.
- \*FDA. 1987i. Zinc stearate. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 182.5994.
- \*FDA. 1987j. Zinc sulfate. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 182.5997.
- FDA. 1989. Quality standards for foods with no identity standards: Bottled water. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 103.35.
- \*FDA. 2000. Total diet study statistics on element results. Washington, DC: U.S. Food and Drug Administration.
- \*FDA. 2001. Beverages. Bottled water. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 165.110.
- \*FDA. 2003a. Beverages. Bottled water. Washington, DC: U.S. Food and Drug Administration. 21 CFR 165.110. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- \*FDA. 2003b. Food labeling. Nutrition labeling of food. Washington, DC: U.S. Food and Drug Administration. 21 CFR 101.9. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- \*FDA. 2003c. New drugs. Drug products containing certain active ingredients offered over-the-counter (OTC) for certain uses. Washington, DC: U.S. Food and Drug Administration. 21 CFR 310.545. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- \*FDA. 2003d. Substances generally recognized as safe. Trace minerals added to animal feeds. Washington, DC: U.S. Food and Drug Administration. 21 CFR 582.80. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- \*FDA. 2003e. Substances generally recognized as safe. Zinc oxide. Zinc sulfate. Washington, DC: U.S. Food and Drug Administration. 21 CFR 182.8991 and 21 CFR 182.8997. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- \*FEDRIP. 2003. Federal Research in Progress. Dialog Information Services, Inc.
- \*FEDRIP. 2004. Federal Research in Progress. Dialog Information Services, Inc.
- Fergusson JE, Stewart C. 1992. The transport of airborne trace elements copper, lead, calcium, zinc, and manganese from a city into rural areas. *Sci Total Environ* 121:247-269.

## 9. REFERENCES

- \*Ferm VH, Carpenter SJ. 1968. The relationship of cadmium and zinc in experimental mammalian teratogenesis. *Lab Invest* 18:429-432.
- \*Fernandes G, Nair M, Onoc K, et al. 1979. Impairment of cell-mediated immunity functions by dietary zinc deficiency in mice. *Proc Natl Acad Sci USA* 76:457-461.
- Fernandez A, Davis SB, Wendt JOL, et al. 2001. Particulate emission from biomass combustion. *Nature* 409:998.
- Fernandez MA, Martinez L, Segarra M, et al. 1992a. Behavior of heavy metals in the combustion gases of urban waste incinerators. *Environ Sci Technol* 26(5):1040-1047.
- \*Fernandez P, Perez Conde C, Gutierrez A, et al. 1992b. Selective spectrofluorimetric determination of zinc in biological samples by flow injection analysis (FIA). *Fresenius J Anal Chem* 342(7):597-600.
- \*Festa MD, Anderson HL, Dowdy RP, et al. 1985. Effect of zinc intake on copper excretion and retention in men. *Am J Clin Nutr* 41:285-292.
- Fine JM, Gordon T, Chen LC, et al. 1997. Metal fume fever: Characterization of clinical and plasma IL-6 responses in controlled human exposures to zinc oxide fume at and below the threshold limit value. *J Occup Environ Med* 39:722-726.
- Fine JM, Gordon T, Chen LC, et al. 2000. Characterization of clinical tolerance to inhaled zinc oxide in naive subjects and sheet metal workers. *J Occup Environ Med* 42:1085-1091.
- Finelli VN, Klauder DS, Karaffa MA, et al. 1975. Interaction of zinc and lead and  $\alpha$ -aminolevulinic acid dehydratase. *Biochem Biophys Res Commun* 65(1):303-311.
- \*Finkelman RB. 1999. Trace elements in coal. Environmental and health significance. *Biol Trace Elem Res* 67:197-204.
- Fischer PWF, Campbell JS, Giroux A. 1991. Effects of low copper and high zinc intakes and related changes in Cu, Zn-superoxide dismutase activity on DMBA-induced mammary tumorigenesis. *Biol Trace Elem Res* 30(1):65-79.
- \*Fischer PWF, Giroux A, Belonje B, et al. 1980. The effect of dietary copper and zinc on cholesterol metabolism. *Am J Clin Nutr* 33:1019-1025.
- \*Fischer PWF, Giroux A, L'Abbe AR. 1984. Effect of zinc supplementation on copper status in adult man. *Am J Clin Nutr* 40:743-746.
- \*Fischer PWF, Giroux A, L'Abbe MR. 1981. The effect of dietary zinc on intestinal copper absorption. *Am J Clin Nutr* 34:1670-1675.
- \*Fishbein L. 1981. Sources, transport, and alterations of metal compounds: An overview: 1. Arsenic, beryllium, cadmium, chromium, and nickel. *Environ Health Perspect* 40:43-64.
- \*Fishman MJ. 1966. The use of atomic absorption for analysis of natural waters. *Atomic Absorption Newsletter* 5:102-106.

## 9. REFERENCES

- Fiske DN, McCoy HE, Kitchens CS. 1994. Zinc-induced sideroblastic anemia: Report of a case, review of the literature, and description of the hematologic syndrome. *Am J Hematol* 46:147-150.
- \*Flanagan PR, Haist J, Valberg LS. 1983. Zinc absorption, intraluminal zinc and intestinal metallothionein levels in zinc-deficient and zinc-repleted rodents. *J Nutr* 113:962-972.
- Fliss H, Menard M, Desai M. 1991. Hypochlorous acid mobilizes cellular zinc. *Can J Physiol Pharmacol* 69(11):1686-1691.
- Flora SJS. 1991. Influence of simultaneous supplementation of zinc and copper during chelation of lead in rats. *Hum Exp Toxicol* 10(5):331-336.
- Flora SJS, Kumar D, Dasgupta S. 1991. Interaction of zinc, methionine or their combination with lead at gastrointestinal or post-absorptive level in rats. *Pharmacol Toxicol* 68(1):3-7.
- \*Florence TM. 1980. Speciation of zinc in natural waters. In: Nriagu JO, ed. *Zinc in the environment: Part I. Ecological cycling*. New York, NY: John Wiley and Sons, 199-227.
- \*Folin M, Cotiero E, Calliari I. 1991. Quantitative determination of copper and zinc in biological samples (human hair): Comparison between atomic-absorption spectrometry and X-ray fluorescence spectrometry. *Ann Chim (Rome)* 81(1-2):39-49.
- \*Fomon SJ. 1966. Body composition of the infant: Part I: The male "reference infant." In: Falkner F, ed. *Human development*. Philadelphia, PA: WB Saunders, 239-246.
- \*Fomon SJ, Haschke F, Ziegler EE, et al. 1982. Body composition of reference children from birth to age 10 years. *Am J Clin Nutr* 35:1169-1175.
- \*Fong LYY, Sivak A, Newberne PM. 1978. Zinc deficiency and methylbenzyl nitrosoamine-induced esophageal cancer in rats. *J Natl Cancer Inst* 61:145-150.
- \*Forssen A. 1972. Inorganic elements in the human body: I. Occurrence of Ba, Br, Ca, Cd, Cs, Cu, K, Mn, Ni, Sn, Sr, Y, and Zn in the human body. *Ann Med Exp Biol Fenn* 50:99-162.
- Foster DM, Aamodt RL, Henkin RI, et al. 1979. Zinc metabolism in humans: A kinetic model. *Am J Physiol* 237:R340-R349.
- \*Foulkes EC. 1984. Intestinal absorption of heavy metals. In: Csaky TZ, ed. *Handbook of experimental pharmacology*. Berlin, Germany: Springer Verlag, I: 543-565.
- \*Foulkes EC. 1985. Interactions between metals in rat jejunum: Implications on the nature of cadmium uptake. *Toxicology* 37:117-125.
- \*Foulkes EC. 1993. Metallothionein and glutathione as determinants of cellular retention and extrusion of cadmium and mercury. *Life Sci* 52:1617-1620.
- \*Foulkes EC, McMullen DM. 1987. Kinetics of transepithelial movement of heavy metals in rat jejunum. *Am J Physiol* 253:G134-G138.
- Fraker PJ, DePasquale-Jardien P, Zwickl CM, et al. 1978. Regeneration of T cell helper function in zinc deficient adult mice. *Proc Nat Acad Sci* 75:5660-5664.

## 9. REFERENCES

- Fraker PJ, Gershwin ME, Good RA, et al. 1986. Interrelationships between zinc and immune function. *Fed Proc* 45:1474-1479.
- \*Francis AJ, Dodge CJ. 1988. Anaerobic microbial dissolution of transitions and heavy metal oxides. *Appl Environ Microbiol* 54:1009-1014.
- Francis AJ, Dodge CJ. 1990. Anaerobic microbial remobilization of toxic metals coprecipitated with iron oxide. *Environ Sci Technol* 24(3):373-378.
- Frangides CY, Pneumatikos IA. 2002. Persistent severe hypoglycemia in acute zinc phosphide poisoning. *Intensive Care Med* 28:223.
- Fraser JD, Urban RG, Strominger JL, et al. 1992. Zinc regulates the function of two superantigens. *Proc Natl Acad Sci USA* 89(12):5507-5511.
- Freeland-Graves JH, Friedman BJ, Han W, et al. 1982. Effect of zinc supplementation on plasma high-density lipoprotein and zinc. *Am J Clin Nutr* 35:988-992.
- \*Freeland-Graves JH, Han WH, Friedman BJ, et al. 1980. Effect of dietary Zn/Cu ratios on cholesterol and HDL cholesterol levels in women. *Nutr Rep Int* 22:285-293.
- Freeland-Graves JH, Lin PH. 1991. Plasma uptake of manganese as affected by oral loads of manganese, calcium, milk, phosphorus, copper, and zinc. *J Am Coll Nutr* 10(1):38-43.
- Frenzel RW, Witmer GW, Starkey EE. 1990. Heavy metal concentrations in a lichen of Mt. Rainier and Olympic National Parks, Washington, USA. *Bull Environ Contam Toxicol* 44:158-164.
- Frias-Espericueta MG, Osuna-Lopez JI, Sandoval-Salazar G, et al. 1999. Distribution of trace metals in different tissues in the rock oyster *Crassostrea iridescens*: Seasonal variation. *Bull Environ Contam Toxicol* 63:73-79.
- Friel JK, Naake VL, Miller LV, et al. 1992. The analysis of stable isotopes in urine to determine the fractional absorption of zinc. *Am J Clin Nutr* 55(2):473-477.
- FSTRAC. 1990. Summary of state and federal drinking water standards and guidelines. Federal-State Toxicology and Regulatory Alliance Committee, Washington, DC.
- Fujiwara Y, Watanabe S, Sakamoto M, et al. 1998. Repair of wounded monolayers of cultured vascular endothelial cells after simultaneous exposure to lead and zinc. *Toxicol Lett* 94:181-188.
- \*Fytianos K, Katsianis G, Triantafyllou P, et al. 2001. Accumulation of heavy metals in vegetables grown in an industrial area in relation to soil. *Bull Environ Contam Toxicol* 67:423-430.
- \*Gachot T, Poujeol P. 1992. Effects of cadmium and copper on zinc transport kinetics by isolated renal proximal cells. *Biol Trace Elem Res* 35(2):93-103.
- Gaither LA, Eide DJ. 2000. Functional expression of the human hZIP2 zinc transporter. *J Biol Chem* 275:5560-5564.
- Gallery EDM, Blomfield J, Dixon SR. 1972. Acute zinc toxicity in haemodialysis. *Br Med J* 4:331-333.

## 9. REFERENCES

- Gallorini M, Pesavento M, Profumo A, et al. 1993. Analytical related problems in metal and trace elements determination in industrial waste landfill leachates. *Sci Total Environ* 133:285-298.
- \*Galloway WB, Lake JL, Phelps DK, et al. 1983. The mussel watch: Intercomparison of trace level constituent determinations. *Environ Toxicol Chem* 2:395-410.
- \*Galvez-Morros M, Garcia-Martinez O, Wright AJA, et al. 1992. Bioavailability in the rat of zinc and iron from the basic salts  $Zn_5(OH)8Cl_2 \cdot H_2O$ ,  $Fe(OH)SO_4$  and  $Fe_4(OH)11NO_3 \cdot 2H_2O$ . *Food Chemistry* 43(5):377-381.
- Gamberg M, Braune BM. 1999. Contaminant residue levels in Arctic wolves (*Canis lupus*) from the Yukon Territory, Canada. *Sci Total Environ* 243/244:329-338.
- Gambrell RP. 1994. Trace and toxic metals in wetlands - a review. *J Environ Qual* 23:883-891.
- \*Gao S, Walker WJ, Dahlgren RA. 1997. Simultaneous sorption of Cd, Cu, Ni, Zn, Pb, and Cr on soils treated with sewage sludge supernatant. *Water Air Soil Pollut* 93:331-345.
- Garcia R, Millan E. 1998. Assessment of Cd, Pb and Zn contamination in roadside soils and grasses from Gipuzkoa (Spain). *Chemosphere* 37:1615-1625.
- Gardner M. 1999. Dissolved phase speciation of zinc in the Humber Estuary. *Chemosphere* 38:2117-2124.
- \*Garrett RG. 2000. Natural sources of metals to the environment. *Hum Ecol Risk Assess* 6(6):945-963.
- \*Gartrell MJ, Craun JC, Podrebarac DS, et al. 1986a. Pesticides, selected elements, and other chemicals in adult total diet samples, October 1980 - March 1982. *J Assoc Off Anal Chem* 68:146-161.
- Gartrell MJ, Craun JC, Podrebarac DS, et al. 1986b. Pesticides, selected elements, and other chemicals in infant and toddler total diet samples, October 1980 - March 1982. *J Assoc Off Anal Chem* 68:1184-1197.
- Gasiorek K, Bauchinger M. 1981. Chromosome changes in human lymphocytes after separate and combined treatment with divalent salts of lead, cadmium and zinc. *Environ Mutagen* 3:513-518.
- Gerhardsson L, Brune D, Nordberg GF, et al. 1988. Multielemental assay of tissues of deceased smelter workers and controls. *Sci Total Environ* 74:97-110.
- \*Gerhardsson L, Englyst V, Lundstrom NG, et al. 2002. Cadmium, copper and zinc in tissues of deceased copper smelter workers. *J Trace Elem Med Biol* 16(4):261-266.
- \*Gerritse RG, Vriesema R, Dalenberg JW, et al. 1982. Effect of sewage sludge on trace element mobility in soils. *J Environ Qual* 11:359-363.
- Ghosh PB, Choudhury A. 1989. Copper, zinc and lead in the sediments of Hooghly Estuary. *Environ Ecol* 7:427-430.
- \*Gibbs RJ. 1994. Metals in the sediments along the Hudson River estuary. *Environ Int* 20:507-516.

## 9. REFERENCES

- Gibson RS, Ferguson EL. 1998. Nutrition intervention strategies to combat zinc deficiency in developing countries. *Nutr Res Rev* 11:115-131.
- Giesy JP, Bowling JW, Kania HJ. 1980. Cadmium and zinc accumulation and elimination by freshwater crayfish. *Arch Environ Contam Toxicol* 9:637-697.
- Gil MN, Harvey MA, Esteves JL. 1999. Heavy metals in intertidal surface sediments from the Patagonian Coast, Argentina. *Bull Environ Contam Toxicol* 63:52-58.
- Gimenez A, Caballeria J, Pares A, et al. 1992. Influence of dietary zinc on hepatic collagen and prolyl hydroxylase activity in alcoholic rats. *Hepatology* 16(3):815-819.
- \*Giroux EL, Durieux M, Schechter PJ. 1976. A study of zinc distribution in human serum. *Bioinorg Chem* 5:211-218.
- Giusquiani PL, Gigliotti G, Businelli D. 1992. Mobility of heavy metals in urban waste-amended soils. *J Environ Qual* 21:330-335.
- \*Giwerzman A, Carlsen E, Keiding N, et al. 1993. Evidence for increasing incidence of abnormalities of the human testis: A review. *Environ Health Perspect Suppl* 101(2):65-71.
- \*Gocke E, King MT, Echardt K, et al. 1981. Mutagenicity of cosmetics ingredients licensed by the European Communities. *Mutat Res* 90:91-109.
- Godfrey JC, Sloane BC, Smith DS, et al. 1992. Zinc gluconate and the common cold: A controlled clinical study. *J Int Med Res* 20(3):234-246.
- Goering PL, Fowler BA. 1987. Kidney zinc-thionein regulation of delta-aminolevulinic acid dehydratase inhibition by lead. *Arch Biochem Biophys* 253(1):48-55.
- Gokayama M, Koh J, Choi DW. 1986. Brief exposure to zinc is toxic to cortical neurons. *Neurosci Lett* 71:351-355.
- Goldin A, Bigelow C, Veneman PLM. 1992. Concentrations of metals in ash from municipal solid waste combustors. *Chemosphere* 24(3):271-280.
- \*Golomb D, Ryan D, Eby N, et al. 1997. Atmospheric deposition of toxics onto Massachusetts Bay-I. Metals. *Atmos Environ* 31(9):1349-1359.
- Gonsior SJ, Sorci JJ, Zoellner MJ, et al. 1997. The effects of EDTA on metal solubilization in river sediment/water systems. *J Environ Qual* 26:957-966.
- Gonzalez H, Pomares M, Ramirez M, et al. 1999. Heavy metals in organisms and sediments from the discharge zone of the submarine sewage outfall of Havana City, Cuba. *Mar Pollut Bull* 38:1048-1051.
- Gonzalez H, Ramirez M, Ablanedo N. 1991. Heavy metals in fish (*Micropogonias furnieri*) from Cienfuegos Bay, Cuba. *Mar Pollut Bull* 22:469-471.
- Gonzalez J, Hernandez LM, Hernan A, et al. 1985. Multivariate analysis of water contamination by heavy metals at Donana National Park. *Bull Environ Contam Toxicol* 35:266-271.

## 9. REFERENCES

- \*Goodwin FE. 1998. Zinc compounds. In: Kroschwitz J, Howe-Grant M, eds. Kirk-Othmer encyclopedia of chemical technology. New York, NY: John Wiley & Sons, Inc., 840-853.
- \*Goodwin JS, Hunt WC, Hooper P, et al. 1985. Relationship between zinc intake, physical activity, and blood levels of high density lipoprotein cholesterol in a healthy elderly population. *Metabolism* 34(6):519-523.
- \*Gordon EF, Gordon RC, Passal DB. 1981. Zinc metabolism: Basic, clinical, and behavioral aspects. *J Pediatr* 99:341-349.
- \*Gordon T, Chen LC, Fine JM, et al. 1992. Pulmonary effects of inhaled zinc oxide in human subjects, guinea-pigs, rats, and rabbits. *Am Ind Hyg Assoc J* 53(8):503-509.
- Gorlach U, Boutron CF. 1992. Variations in heavy metals concentrations in Antarctic snows from 1940 to 1980. *J Atmos Chem* 14:205-222.
- Goyer RA. 1986. Toxic effects of metals. In: Klaassen CD, Amdur MD, Doull J, eds. Casarett and Doull's toxicology--the basic science of poisons. 3rd ed. New York, NY: Macmillan Publishing Co., 617-619.
- \*Greathouse DG, Osborne RH. 1980. Preliminary report on nationwide study of drinking water and cardiovascular diseases. *J Environ Pathol Toxicol Oncol* 4:65-76.
- Greaves MW, Skillen AW. 1970. Effects of long-continued ingestion of zinc sulphate in patients with venous leg ulceration. *Lancet* ii:889-891.
- \*Greger JL, Baligar P, Abernathy RP, et al. 1978b. Calcium, magnesium, phosphorus, copper, and manganese balance in adolescent females. *Am J Clin Nutr* 31:117-121.
- \*Greger JL, Sickles VS. 1979. Saliva zinc levels: Potential indicators of zinc status. *Am J Clin Nutr* 32:1859-1866.
- \*Greger JL, Zaikis SC, Abernathy RP, et al. 1978a. Zinc, nitrogen, copper, iron and manganese balance in adolescent females fed two levels of zinc. *J Nutr* 108:1449-1456.
- \*Grider A, Bailey LB, Cousins RJ. 1990. Erythrocyte metallothionein as an index of zinc status in humans. *Proc Natl Acad Sci USA* 87:1259-1262.
- Grimshaw DL, Lewin J, Fuge R. 1976. Seasonal and short-term variations in the concentration and supply of dissolved zinc to polluted aquatic environments. *Environ Pollut* 11:1-7.
- Guenther K, Waldner H. 1992. Speciation of zinc and cadmium in ordinary vegetable foodstuffs. *Anal Chim Acta* 259(1):165-173.
- Guidolin D, Polato P, Venturin G, et al. 1992. Correlation between zinc level in hippocampal mossy fibers and spatial memory in aged rats. *Ann NY Acad Sci* 673:187-193.
- Gulmini M, Zelano V, Gastaldi D, et al. 1999. Cd, Cr, Cu, Fe, Mn, Pb and Zn content in sediments from the Venice lagoon. *Ann Chim* 89:267-277.

## 9. REFERENCES

- Gungum B, Unlu E, Tez Z, et al. 1994. Heavy metal pollution in water, sediment and fish from the Tigris River in Turkey. *Chemosphere* 29(1):111-116.
- \*Gundersen P, Steinnes E. 2003. Influence of pH and TOC concentration on Cu, Zn, Cd, and Al speciation in rivers. *Water Res* 37:307-318.
- \*Gunn S, Gould TC, Anderson WAD. 1963a. Cadmium-induced interstitial cell tumors in rats and mice and their prevention by zinc. *J Natl Cancer Inst* 31:745-759.
- Gunn SA, Gould TC, Anderson WAD. 1963b. The selective injurious response of testicular and epididymal blood vessels to cadmium and its prevention by zinc. *Am J Pathol* 42:685-702.
- \*Gunn S, Gould TC, Anderson WAD. 1964. Effect of zinc on cancerogenesis by cadmium. *Proc Soc Exp Biol Med* 115:653-657.
- Gunshin H, Mackenzie B, Berger U, et al. 1997. Cloning and characterization of a mammalian proton-coupled metal-ion transporter. *Nature* 388:482-488.
- \*Gunshin H, Noguchi T, Naito H. 1991. Effect of calcium on the zinc uptake by brush-border membrane vesicles isolated from the rat small intestine. *Agric Biol Chem* 35(11):2813-2816.
- Gunson DE, Kowalczyk DF, Shoop CR, et al. 1982. Environmental zinc and cadmium pollution associated with generalized osteochondrosis, osteoporosis, and nephrocalcinosis in horses. *J Am Vet Med Assoc* 180:295-299.
- \*Gunther T, Gossrau R, Vormann J, et al. 1991. Protection against salicylate-induced hepatic injury by zinc: A histochemical and biochemical study. *Histochem J* 23(2):75-82.
- Gupta S, Pandey S, Misra V, et al. 1986. Effect of intratracheal injection of zinc oxide dust in guinea pigs. *Toxicology* 38:197-202.
- \*Gupta T, Talukder G, Sharma A. 1991. Cytotoxicity of zinc chloride in mice *in vivo*. *Biol Trace Elem Res* 30:95-101.
- \*Guthrie J. 1956. Attempts to produce seminomata in the albino rat by inoculation of hydrocarbons and other carcinogens into normally situated and ectopic testes. *Br J Cancer* 10:134-144.
- \*Guy RD, Chakrabarti CL. 1976. Studies of metal-organic interactions in model systems pertaining to natural waters. *Can J Chem* 54:2600-2611.
- Guy RD, Chakrabarti CL, Schramm LL. 1975. The application of a simple chemical model of natural waters to metal fixation in particulate matter. *Can J Chem* 53:661-669.
- \*Guzelian PS, Henry CJ, Olin SS, eds. 1992. Similarities and differences between children and adults: Implications for risk assessment. Washington, DC: International Life Sciences Institute Press.
- \*Gyorffy EJ, Chan H. 1992. Copper deficiency and microcytic anemia resulting from prolonged ingestion of over-the-counter zinc. *Am J Gastroenterology* 87(8):1054-1055.
- Habib FK, Hammond GL, Lee IR, et al. 1976. Metal-androgen interrelationships in carcinoma and hyperplasia of the human prostate. *J Endocr* 71:133-141.

## 9. REFERENCES

- \*Haines RC. 1984. Environmental contamination-surveys of heavy metals in urban soils and hazard assessment. *Trace Substances in Environmental Health* 18:450-460.
- \*Hale JG. 1977. Toxicity of metal mining wastes. *Bull Environ Contam Toxicol* 17:66-73.
- \*Hale WE, May FE, Thomas RG, et al. 1988. Effect of zinc supplementation on the development of cardiovascular disease in the elderly. *Journal of Nutrition for the Elderly* 8(2):49-57.
- \*Hallbook T, Lanner E. 1972. Serum-zinc and healing of venous leg ulcers. *Lancet* ii:780-782.
- \*Hallmans G. 1977. Treatment of burns with zinc tape: A study of local absorption of zinc in humans. *Scand J Plast Reconstr Surg* 11:155-161.
- \*Halme E. 1961. On the carcinogenic effect of drinking water containing zinc. *Vitalstoffe* 6:59-66.
- Hambidge M, Krebs NF. 2001. Interrelationships of key variables of human zinc homeostasis: Relevance to dietary zinc requirements. *Annu Rev Nutr* 21:429-452.
- Hambidge KM, Casey CE, Krebs NF. 1986. Zinc. In: Mertz W, ed. *Trace elements in human and animal nutrition*. Vol. 2, 5th ed. New York, NY: Academic Press, 1-137.
- \*Hambidge KM, Hambidge C, Jacobs M, et al. 1972. Low levels of zinc in hair, anorexia, poor growth and hypogeusia in children. *Pediatr Res* 6:868-874.
- \*Hambidge M, Hackshaw A, Wald N. 1993. Neural tube defects and serum zinc. *Br J Obstet Gynaecol* 100:746-749.
- \*Hamdi EA. 1969. Chronic exposure to zinc of furnace operators in a brass foundry. *Br J Ind Med* 26:126-134.
- \*Hamilton DL, Bellamy JEC, Valberg JD, et al. 1978. Zinc, cadmium, and iron interactions during intestinal absorption in iron-deficient mice. *Can J Physiol Pharmacol* 56:384-389.
- Hammock D, Huang CC, Mort G, et al. 2003. The effect of humic acid on the uptake of mercury(II), cadmium(II), and zinc(II) by Chinook salmon (*Oncorhynchus tshawytscha*) eggs. *Arch Environ Contam Toxicol* 44:83-88.
- \*Hammond JW. 1944. Metal fume fever in crushed stone industry. *J Ind Hyg Toxicol* 26:117-119.
- Hanna LA, Peters JM, Wiley LM, et al. 1997. Comparative effects of essential and nonessential metals on preimplantation mouse embryo development in vitro. *Toxicology* 116(1-3):123-131.
- Hansen JDL, Lehmann BH. 1969. Serum zinc and copper concentrations in children with protein calorie malnutrition. *S Afr Med J* 43:1248-1250.
- Hansen M, Samman S, Madsen LT, et al. 2001. Folic acid enrichment of bread does not appear to affect zinc absorption in young women. *Am J Clin Nutr* 74:125-129.
- Hantson P, Lievens M, Mahieu P. 1996. Accidental ingestion of a zinc and copper sulfate preparation. *J Toxicol Clin Toxicol* 34(6):725-730.

## 9. REFERENCES

- Hardiman S, Pearson B. 1995. Heavy metals, TBT and DDT in the Sydney rock oyster (*Saccostrea commercialis*) sampled from the Hawkesbury River Estuary, NSW, Australia. *Mar Pollut Bull* 30:563-567.
- Harding LE, Harris ML, Elliott JE. 1998. Heavy and trace metals in wild mink (*Mustela vison*) and river otter (*Lontra canadensis*) captured on rivers receiving metals discharges. *Bull Environ Contam Toxicol* 61:600-607.
- \*Harford C, Sarkar B. 1991. Induction of metallothionein by simultaneous administration of cadmium(II) and zinc(II). *Biochem Biophys Res Commun* 177(1):224-228.
- Harrison RM, Williams CR. 1981. Characterization of airborne heavy metals within a primary zinc-lead smelting works. *Environ Sci Technol* 15:1197-1204.
- Harrison SE, Klaverkamp JF. 1990. Metal contamination in liver and muscle of northern pike (*Esox lucius*) and white sucker (*Catostomus commersoni*) from lakes near the smelter at Flin Flon, Manitoba. *Environ Toxicol Chem* 9:941-956.
- Harrison WW, Yurachek JP, Benson CA. 1969. The determination of trace elements in human hair by atomic absorption spectroscopy. *Clin Chim Acta* 23:83-91.
- Hartsfield JK, Lee MY, Morel JG, et al. 1992. Statistical analysis of the effect of cadmium and zinc on hamster teratogenesis. *Biochem Med Metab Biol* 48(2):159-173.
- Hartwell TD, Handy RW, Harris BS, et al. 1983. Heavy metal exposure in populations living around zinc and copper smelters. *Arch Environ Health* 38:284-295.
- Hassan HA, Netchvolodoff C, Raufman JP. 2000. Zinc-induced copper deficiency in a coin swallower. *Am J Gastroenterol* 95(10):2975-2977.
- Hatayama T, Tsukimi Y, Wakatsuki T, et al. 1992. Characteristic induction of 70000-DA-heat shock protein and metallothionein by zinc in HELA-cells. *Mol Cell Biochem* 112(2):143-153.
- \*Hayashi M, Yamamoto K, Yoshimura M, et al. 1993. Cadmium, lead, and zinc concentrations in human fingernails. *Bull Environ Contam Toxicol* 50(4):547-553.
- Haynes D, Johnson JE. 2000. Organochlorine, heavy metal and polyaromatic hydrocarbon pollutant concentrations in the Great Barrier Reef (Australia) environment: A review. *Mar Pollut Bull* 41:267-278.
- \*HazDat. 2005. HazDat Database: ATSDR's Hazardous Substance Release and Health Effects Database. Atlanta, GA: Agency for Toxic Substances and Disease Registry. [www.atsdr.cdc.gov/hazdat.html](http://www.atsdr.cdc.gov/hazdat.html). April 28, 2005.
- \*He LS, Yan XS, Wu DC. 1991. Age-dependent variation of zinc-65 metabolism in LACA mice. *Int J Radiat Biol* 60(6):907-916.
- \*He XT, Logan TJ, Traina SJ. 1995. Physical and chemical characteristics of selected U.S. municipal solid waste composts. *J Environ Qual* 24:543-552.

## 9. REFERENCES

Headley AD. 1996. Heavy metal concentrations in peat profiles from the high arctic. *Sci Total Environ* 177:105-111.

\*Heaton RW, Rahn KA, Lowenthal DH. 1990. Determination of trace elements, including regional tracers, in Rhode Island precipitation. *Atmos Environ* 24A:147-153.

Hedges JD, Kornegay ET, Thomas HR. 1976. Comparison of dietary zinc levels for reproducing sows and the effect of dietary zinc and calcium on the subsequent performance of their progeny. *J Anim Sci* 43:453-463.

Hegsted DM, McKibbin JM, Drinker CK. 1945. U.S. public health report. Washington, DC: U.S. Government Printing Office, Suppl 179.

\*Hegstrom LJ, West SD. 1989. Heavy metal accumulation in small mammals following sewage sludge application to forests. *J Environ Qual* 18:345-349.

\*Heijerick DG, De Schamphelaere KAC, Janssen CR. 2002a. Biotic ligand model development predicting Zn toxicity to the alga *Pseudokirchneriella subcapitata*: Possibilities and limitations. *Comp Biochem Physiol C* 133:207-218.

Heijerick DG, De Schamphelaere KAC, Janssen CR. 2002b. Predicting acute zinc toxicity for *Daphnia magna* as a function of key water chemistry characteristics: Development and validation of a biotic ligand model. *Environ Toxicol Chem* 21(6):1309-1315.

\*Heiny JS, Tate CM. 1997. Concentration, distribution, and comparison of selected trace elements in bed sediment and fish tissue in the South Platte River Basin, USA, 1992-1993. *Arch Environ Contam Toxicol* 32:246-259.

\*Heit M, Klusek CS. 1985. Trace element concentrations in the dorsal muscle of white suckers and brown bullheads from two acidic Adirondack lakes. *Water Air Soil Pollut* 25:87-96.

\*Heit M, Klusek C, Baron J. 1984. Evidence of deposition of anthropogenic pollutants in remote Rocky Mountain lakes. *Water Air Soil Pollut* 22:403-416.

\*Heit M, Schofield C, Driscoll CT, et al. 1989. Trace element concentrations in fish from three Adirondack lakes with different pH values. *Water Air Soil Pollut* 44:9-30.

\*Hellou J, Warren WG, Payne JF, et al. 1992. Heavy metals and other elements in three tissues of cod, *Gadus morhua* from the Northwest Atlantic. *Mar Pollut Bull* 24(9):452-458.

\*Helmers E, Schrems O. 1995. Wet deposition of metals to the tropical north and the south Atlantic ocean. *Atmos Environ* 29:2475-2484.

\*Helz GR, Huggett RJ, Hill JM. 1975. Behavior of Mn, Fe, Cu, Zn, Cd, and Pb discharged from a wastewater treatment plant into an estuarine environment. *Water Res* 9:631-636.

\*Hempe JM, Cousins RJ. 1991. Cysteine-rich intestinal protein binds zinc during transmucosal zinc transport. *Proc Nat Acad Sci* 88(121):9671-9674.

\*Hempe JM, Cousins RJ. 1992. Cysteine-rich intestinal protein and intestinal metallothionein: An inverse relationship as a conceptual model for zinc absorption in rats. *J Nutr* 122(1):89-95.

## 9. REFERENCES

- Henderson LM, Brewer GJ, Dressman JB, et al. 1996. Use of zinc tolerance test and 24-hour urinary zinc content to assess oral zinc absorption. *J Am Coll Nutr* 15(1):79-83.
- Hendriks AJ, Pieters H, Deboer J. 1998. Accumulation of metals, polycyclic (halogenated) aromatic hydrocarbons, and biocides in zebra mussel and eel from the Rhine and Meuse Rivers. *Environ Toxicol Chem* 17:1885-1898.
- \*Henkin RI. 1974. Metal-albumin-amino acid interactions: Chemical and physiological interrelationships. In: Friedman M, ed. *Chemical and physiological interrelationships in protein-metal interactions*. New York, NY: Plenum Press, 299-328.
- Henkin RI, Aamodt RL. 1983. A redefinition of zinc deficiency. In: Inglett G, ed. *The nutritional bioavailability of zinc*. Washington, DC: American Chemical Society, 83-105.
- Henkin RI, Aamodt RL, Agarwal RP, et al. 1982. The role of zinc in taste and smell. In: Prasad AS, ed. *The clinical, biochemical and nutritional aspects of trace elements*. New York, NY: Alan/Liss, 161-188.
- \*Henkin RI, Mueller CW, Wolf RO. 1975a. Estimation of zinc concentration of parotid saliva by flameless atomic absorption spectrophotometry in normal subjects and in patients with idiopathic hypogeusia. *J Lab Clin Med* 86:175-180.
- \*Henkin RI, Patten BM, Re PK, et al. 1975b. A syndrome of acute zinc loss: Cerebellar dysfunction, mental changes, anorexia, and taste and smell dysfunction. *Arch Neurol* 32:745-751.
- \*Henkin RI, Schechter PH, Friedewald WT, et al. 1976. A double blind study of the effects of zinc sulfate on taste and smell dysfunction. *Am J Med Sci* 272:285-299.
- \*Henry JB, ed. 1984. *Clinical diagnosis and management by laboratory methods*. Philadelphia, PA: WB Saunders Company, 162-163, 1437, 1442.
- Hentz LH, Johnson FB, Baturay A. 1992. Air emission studies of sewage sludge incinerators at the Western Branch wastewater treatment plant. *Water Environ Res* 64(2):111-119.
- Henzel JH, DeWeese MS, Lichti, EL. 1970. Zinc concentrations within healing wounds. *Arch Surg* 100:349-357.
- \*Henzel JH, Keitzer FW, Lichti EL, et al. 1971. Efficacy of zinc medication as a therapeutic modality in atherosclerosis: Followup observations on patients medicated over prolonged periods. In: Hemphill DD, ed. *Trace Substances in Environmental Health* 2:336-341.
- Herawati N, Rivai IF, Koyama H, et al. 1998a. Zinc levels in rice and in soil according to the soil types of Japan, Indonesia and China. *Bull Environ Contam Toxicol* 60:402-408.
- Herawati N, Suzuki S, Hayashi K, et al. 2000. Cadmium, copper, and zinc levels in rice and soil of Japan, Indonesia, and China by soil type. *Bull Environ Contam Toxicol* 64:33-39.
- \*Hermann R, Neumann-Mahlkau P. 1985. The mobility of zinc, cadmium, copper, lead, iron and arsenic in ground water as a function of redox potential and pH. *Sci Total Environ* 43:1-12.

## 9. REFERENCES

- Hermanson MH. 1991. Chronology and sources of anthropogenic trace metals in sediments from small, shallow arctic lakes. *Environ Sci Technol* 25:2059-2064.
- Hermanson MH. 1993. Historical accumulation of atmospherically derived pollutant trace metals in the arctic as measured in dated sediment cores. *Water Sci Technol* 28(8-9):33-41.
- \*Hesterberg D, Sayers DE, Zhou W, et al. 1997. X-ray absorption spectroscopy of lead and zinc speciation in a contaminated groundwater aquifer. *Environ Sci Technol* 31:2840-2846.
- \*Heth DA, Hoekstra WG. 1965. Zinc-65 absorption and turnover in rats: Part I. A procedure to determine zinc-65 absorption and the antagonistic effect of calcium in a practical diet. *J Nutr* 85:367-374.
- \*Hewitt PJ. 1988. Accumulation of metals in the tissues of occupationally exposed workers. *Environ Geochem Health* 10:113-116.
- Hidalgo J, Giralt M, Garvey JS, et al. 1991. Effect of morphine administration on rat liver metallothionein and zinc metabolism. *J Pharmacol Exp Ther* 259(1):274-278.
- Hill CH, Matrone G. 1970. Zinc susceptibility greater in animals fed a low copper diet. *Fed Proc Am Soc Exp Biol* 29:1474.
- \*Hill GM, Brewer GJ, Hogikyan ND, et al. 1984. The effect of depot parenteral zinc on copper metabolism in the rat. *J Nutr* 114:2283-2291.
- Hill GM, Miller ER, Stowe HD. 1983. Effect of dietary zinc levels on health and productivity of gilts and sows through two parities. *J Anim Sci* 57:114-122.
- \*Hiller R, Seigel D, Sperduto RD, et al. 1995. Serum zinc and serum lipid profiles in 778 adults. *Ann Epidemiol* 5:490-496.
- Hirai M, Nomiya H, Nomiya K. 1992. Persistent anorexia in rabbits given a large dose of intravenous zinc sulfate. *Biomed Res Trace Elem* 3(3):313-318.
- \*Hirano S, Higo S, Tsukamoto N, et al. 1989. Pulmonary clearance and toxicity of zinc oxide instilled into the rat lung. *Arch Toxicol* 63:336-342.
- Hirose K. 1990. Chemical speciation of trace metals in seawater: Implication of particulate trace metals. *Mar Chem* 28:267-274.
- Hitchcock DR, Thomas BR. 1992. Some trace metals in sediments from Cardiff Bay, UK. *Mar Pollut Bull* 24:464-466.
- \*Hjortso E, Quist J, Bud M, et al. 1988. ARDS after accidental inhalation of zinc chloride smoke. *Intensive Care Med* 14:17-24.
- Ho MH, Dillon HK. 1986. Biological monitoring. *Environ Sci Technol* 20:124-127.
- \*Hoel DG, Davis DL, Miller AB, et al. 1992. Trends in cancer mortality in 15 industrialized countries, 1969-1986. *J Natl Cancer Inst* 84(5):313-320.

## 9. REFERENCES

- \*Hoffman HN II, Phyliky RL, Fleming CR. 1988. Zinc-induced copper deficiency. *Gastroenterology* 94:508-512.
- Hogan GR, Cole BS, Lovelaie JM. 1987. Sex and age mortality responses in zinc acetate treated mice. *Bull Environ Contam Toxicol* 39:156-161.
- \*Homma S, Jones R, Qvist J, et al. 1992. Pulmonary vascular lesions in the adult respiratory distress syndrome caused by inhalation of zinc chloride smoke: A morphometric study. *Hum Pathol* 23(1):45-50.
- \*Honda R, Tawara K, Nishijo M, et al. 2003. Cadmium exposure and trace elements in human breast milk. *Toxicology* 186(3):255-259.
- Hong S, Boutron CF, Edwards R, et al. 1998. Heavy metals in antarctic ice from law dome: Initial results. *Environ Res* 78:94-103.
- \*Hooper PL, Visconti L, Garry PJ, et al. 1980. Zinc lowers high-density lipoprotein-cholesterol levels. *JAMA* 244:1960-1961.
- Hornig CJ, Lin SR. 1997. Determination of urinary zinc, chromium, and copper in steel production workers. *Biol Trace Elem Res* 55(3):307-314.
- Hortz C, Lowe NM, Araya M, et al. 2003. Assessment of the tract element status of individuals and populations: The example of zinc and copper. *J Nutr* 133(5):1563S-1568S.
- \*Houba C, Remacle J, Dubois D, et al. 1983. Factors affecting the concentrations of cadmium, zinc, copper and lead in the sediments of the Vesdre River. *Water Res* 17:1281-1286.
- Houston S, Haggard J, Williford J, et al. 2001. Adverse effects of large-dose zinc supplementation in an institutionalized older population with pressure ulcers. *J Am Geriatr Soc* 49:1130-1132.
- \*HSDB. 1986. Hazardous Substances Data Bank. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.
- \*HSDB. 1990. Hazardous Substances Data Bank. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.
- HSDB. 1993. Hazardous Substances Data Bank. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.
- \*HSDB. 2003. Zinc. Environmental standards and regulations. Bethesda, MD: Hazardous Substances Data Bank. <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.htm>. June 6, 2003.
- \*Hsu FS, Krook L, Pond WG, et al. 1975. Interactions of dietary calcium with toxic levels of lead and zinc in pigs. *J Nutr* 105:112-118.
- \*Hu HL, Chen RD, Ma LH. 1992. Protective effect of zinc on liver injury induced by D-galactosamine in rats. *Biol Trace Elem Res* 34(1):27-33.
- Huang YJ, Gulson BL. 2002. Selenium in soils, spermatophytes and bryophytes around a Zn-Pb smelter, New South Wales, Australia. *Sci Total Environ* 293:129-141.

## 9. REFERENCES

- Huerta P, Blanco MD, Olmo R, et al. 1991. Evolution of weight and zinc level in thymus and spleen of rats after zinc treatment. *Toxicol Environ Chem* 33(3-4):231-237.
- \*Hunt J. 2003. Bioavailability of iron, zinc and other trace minerals from vegetarian diets. *Am J Clin Nutr* 78(3):633S-639S.
- Hunt CD, West DA, Lewis DA. 1994. Trace metals concentrations in New York/New Jersey harbor. *Hazard Ind Wastes* 26:691-698.
- \*Hunt JR, Lykken GI, Mullen Lk. 1991. Moderate and high amounts of protein from casein enhance human absorption of zinc from whole-wheat or white rolls. *Nutr Res* 11(5):413-418.
- Hunt JR, Matthys LA, Johnson LK. 1998. Zinc absorption, mineral balance, and blood lipids in women consuming controlled lactoovovegetarian and omniverous diets for 8 wk. *Am J Clin Nutr* 67:421-430.
- \*Hutchinson F, Wai CM. 1979. Cadmium, lead, and zinc in reclaimed phosphate mine waste dumps in Idaho. *Bull Environ Contam Toxicol* 23:377-380.
- Hwang S-J, Chang S-C, Lee SC, et al. 1999. Short-and long-term uses of calcium acetate do not change hair and serum zinc concentrations in hemodialysis patients. *Scand J Clin Lab Invest* 59:83-88.
- \*ICF. 1986. Development of soil: Water distribution coefficients for LLM inorganic chemicals (draft). Washington, DC.
- Igic PG, Lee E, Harper W, et al. 2002. Toxic effects associated with consumption of zinc. *Mayo Clin Proc* 77:713-716.
- \*Injuk J, Otten P, Laane R, et al. 1992. Atmospheric concentrations and size distributions of aircraft-sampled Cd, Cu, Pb and Zn over the Southern Bight of the North Sea. *Atmos Environ* 26A(14):2499-2508.
- Injuk J, Vangrieken R. 1995. Atmospheric concentrations and deposition of heavy metals over the North Sea: A literature review. *J Atmos Chem* 20:179-212.
- \*IOM. 2002. Dietary reference intakes for vitamin A, vitamin K, arsenic, boron, chromium, copper, iodine, iron, manganese, molybdenum, nickel, silicon, vanadium, and zinc. Institute of Medicine. Food and Nutrition Board, NRC. Washington, DC: National Academy Press, 442-501.
- \*IRIS. 2003. Zinc and compounds. Washington, DC: Integrated Risk Information System. <http://www.epa.gov/iris/>. June 6, 2003.
- \*Istfan NW, Janghorbani M, Young VR. 1983. Absorption of stable <sup>70</sup>Zn in healthy young men in relation to zinc intake. *Am J Clin Nutr* 38:187-194.
- Itoh M, Ebadi M. 1982. The selective inhibition of hippocampal glutamic acid decarboxylase in zinc-induced epileptic seizures. *Neurochem Res* 7:1287-1289.
- Jackson BP, Allen PLS, Hopkins WA, et al. 2002. Trace element speciation in largemouth bass (*Micropterus salmoides*) from a fly ash settling basin by liquid chromatography-ICP-MS. *Anal Bioanal Chem* 374:203-211.

## 9. REFERENCES

- Jackson MJ, Lowe NM. 1992. Physiological role of zinc. *Food Chem* 43(3):233-238.
- Jain CK, Ram D. 1997. Adsorption of lead and zinc on bed sediments of the river Kali. *Water Res* 31(1):154-162.
- Jalla S, Westcott J, Steirn M, et al. 2002. Zinc absorption and exchangeable zinc pool sizes in breast-fed infants fed meat or cereal as first complementary food. *J Pediatr Gastroenterol Nutr* 34:35-41.
- \*Janghorbani M, Ting BTG, Istfan NW, et al. 1981. Measurement of  $^{68}\text{Zn}$  and  $^{70}\text{Zn}$  in human blood in reference to the study of zinc metabolism. *Am J Clin Nutr* 34:581-591.
- Jansen RAG, Vanleeuwen HP, Cleven RFMJ, et al. 1998. Speciation of lability of zinc(II) in river waters. *Environ Sci Technol* 32:3882-3886.
- \*Janssen RPT, Peijnenburg WJGM, Posthuma L, et al. 1997. Equilibrium partitioning of heavy metals in Dutch field soils. I. Relationship between metal partition coefficients and soil characteristics. *Environ Toxicol Chem* 16:2470-2478.
- Jehan ZS, Motlag DB. 1995. Metal induced changes in the erythrocyte membrane of rats. *Toxicol Lett* 78(2):127-133.
- Jeng MS, Jeng WL, Hung TC, et al. 1999. Mussel watch: a review of cu and other metals in various marine organisms in Taiwan, 1991-98. *Environ Pollut* 110:1-9.
- \*Jenkins RA. 1986. Occurrence of selected metals in cigarette tobaccos and smoke. *IARC Sci Publ* 71:129-141.
- \*Jenkins KJ, Hidiroglou M. 1991. Tolerance of the preruminant calf for excess manganese or zinc in milk replacer. *J Dairy Sci* 74:1047-1053.
- Jenkins KJ, Kramer JKG. 1992. Changes in lipid composition of calf tissues by excess dietary zinc. *J Dairy Sci* 75(5):1313-1319.
- Jiang QG, Sun JG, Qin XF. 1991. The effects of trinitrotoluene toxicity on zinc and copper metabolism. *Toxicol Lett* 55(3):343-349.
- Jickells TD, Davis TD, Tranter M, et al. 1992. Trace elements in snow samples from the Scottish highlands: Sources and dissolved/particulate distributions. *Atmos Environ* 26a:393-401.
- Jin X, Cheung YY. 1991. Determination of trace manganese, cobalt, nickel, copper, zinc, arsenic, molybdenum and strontium in cabbage, turnip, soya beans and soil by inductively coupled plasma mass spectrometry. *Fenxi Huaxue* 19(4):430-432.
- Johansen P, Hansen MM, Asmund G, et al. 1991. Marine organisms as indicators of heavy metal pollution: Experience from 16 years of monitoring at a lead-zinc mine in Greenland. *Chem Ecol* 5(1-2):35-55.
- \*Johanson CE. 1980. Permeability and vascularity of the developing brain: Cerebellum vs cerebral cortex. *Brain Res* 190:3-16.

## 9. REFERENCES

- \*John W, Kaifer R, Rahn K, et al. 1973. Trace element concentrations in aerosols from the San Francisco Bay Area. *Atmos Environ* 7:107-118.
- \*Johnson PE. 1982. A mass spectrometric method for use of stable isotopes as tracers in studies of iron, zinc, and copper absorption in human subjects. *J Nutr* 112:1414-1424.
- \*Johnson A, Norton D, Yake B, et al. 1990. Transboundary metal pollution of the Columbia River (Franklin D. Roosevelt Lake). *Bull Environ Contam Toxicol* 45:703-710.
- \*Johnson FA, Stonehill RB. 1961. Chemical pneumonitis from inhalation of zinc chloride. *Dis Chest* 40:619-624.
- \*Johnson MA, Flagg EW. 1986. Effects of sucrose and cornstarch on the development of copper deficiency in rats fed high levels of zinc. *Nutr Res* 6:1307-1319.
- Johnson PE, Hunt CD, Milne DB, et al. 1993. Homeostatic control of zinc metabolism in men: Zinc excretion and balance in men fed diets low in zinc. *Am J Clin Nutr* 57:557-565.
- \*Johnson PE, Hunt JR, Ralston NV. 1988. The effect of past and current dietary Zn intake on Zn absorption and endogenous excretion in the rat. *J Nutr* 118:1205-1209.
- \*Jolly JH. 1988. Zinc: 1988. Minerals yearbook. Vol. 1. Washington, DC: U.S. Bureau of Mines, Department of Interior, 1019-1048.
- \*Jones R, Burgess MSE. 1984. Zinc and cadmium in soils and plants near electrical transmission (hydro) towers. *Environ Sci Technol* 18(10):731-734.
- Jones R, Prohaska KA, Burgess MSE. 1988. Zinc and cadmium in corn plants growing near electrical transmission towers. *Water Air Soil Pollut* 37:355-363.
- \*Jop KM, Biever RC, Hoberg JR, et al. 1997. Analysis of metals in blue crabs, *Callinectes sapidus*, from two Connecticut estuaries. *Bull Environ Contam Toxicol* 58:311-317.
- \*Jürgensen H, Behne D. 1977. Variations in trace element concentrations in human blood serum in the normal state investigated by instrumental neutron activation analysis. *Journal of Radioanalytical Chemistry* 37:375-382.
- \*Kabala C, Singh BR. 2001. Fractionation and mobility of copper, lead, and zinc in soil profiles in the vicinity of a copper smelter. *J Environ Qual* 30:485-492.
- \*Kada J, Heit M. 1992. The inventories of anthropogenic lead, zinc, arsenic, cadmium, and the radionuclides <sup>137</sup>Cs and excess <sup>210</sup>Pb in lake sediments of the Adirondack region, USA. *Hydrobiologia* 246(3):231-241.
- \*Kadiiska M, Stoytchev T, Serbinova E. 1985. Effect of some heavy metal salts on hepatic monooxygenases after subchronic exposure. *Arch Toxicol Suppl* 8:313-315.
- Kafka Z, Kuras M. 1997. Heavy metals in soils contaminated from different sources. *Ecological issues and environmental impact assessment*, 175-180.

## 9. REFERENCES

- Kalas JA, Ringsby TH, Lierhagen S. 1995. Metals and selenium in wild animals from Norwegian areas close to Russian nickel smelters. *Environ Monit Assess* 36:251-270.
- Kalay M, Ay O, Canli M. 1999. Heavy metal concentrations in fish tissues from the northeast Mediterranean Sea. *Bull Environ Contam Toxicol* 63:673-681.
- \*Kalbasi M, Racz GJ, Lewen-Rudgers LA. 1978. Reaction products and solubility of applied zinc compounds in some Manitoba soils. *Soil Sci* 125:55-64.
- \*Kaminski MD, Landsberger S. 2000a. Heavy metals in urban soils of east St. Louis, Illinois. Part I: Total concentration of heavy metals in soils. *J Air Waste Manage Assoc* 50:1667-1679.
- \*Kaminski MD, Landsberger S. 2000b. Heavy metals in urban soils of east St. Louis, Illinois. Part II: Leaching characteristics and modeling. *J Air Waste Manage Assoc* 50:1680-1687.
- Karathanasis AD. 1999. Subsurface migration of copper and zinc mediated by soil colloids. *Soil Sci Soc Am J* 63(4):830-838.
- Karvelas M, Katsoyiannis A, Samara C. 2003. Occurrence and fate of heavy metals in the wastewater treatment process. *Chemosphere* 53:1201-1210.
- Kashulin NA, Ratkin NE, Pauvalter VA, et al. 2001. Impact of airborne pollution of the drainage area of subarctic lakes and fish. *Chemosphere* 42:51-59.
- \*Kasprzak KS, Kovatch RM, Poirier LA. 1988. Inhibitory effect of zinc on nickel subsulfide carcinogenesis in Fischer rats. *Toxicology* 52:253-262.
- \*Katya-Katya M, Ensminger A, Mèjean L, et al. 1984. The effect of zinc supplementation on plasma cholesterol levels. *Nutr Res* 4:633-638.
- \*Kazacos EA, Van Vleet JF. 1989. Sequential ultrastructural changes of the pancreas in zinc toxicosis in ducklings. *Am J Pathol* 134:581-595.
- Kececi T, Keskin E. 2002. Zinc supplementation decreases total thyroid hormone concentration in small ruminants. *Acta Vet Hung* 50:93-100.
- \*Keen CL, Hurley LS. 1977. Zinc absorption through skin: Correction of zinc deficiency in the rat. *Am J Clin Nutr* 30:528-530.
- Keen CL, Uriu-Hare JY, Hawk SN, et al. 1998. Effect of copper deficiency on prenatal development and pregnancy outcome. *Am J Clin Nutr* 67:1003S-1011S.
- Kelland EE, Kelly MD, Toms NJ. 2004. Pyruvate limits zinc-induced rat oligodendrocyte progenitor cell death. *Eur J Neurosci* 19(2):287-294.
- Kelly EJ, Quaife CJ, Froelick GJ, et al. 1996. Metallothionein I and II protect against zinc deficiency and zinc toxicity in mice. *J Nutr* 126:1782-1790.
- Kelly JJ, Tate RL. 1998. Effects of heavy metal contamination and remediation on soil microbial communities in the vicinity of a zinc smelter. *J Environ Qual* 27:609-617.

## 9. REFERENCES

- \*Ketcheson MR, Barron GP, Cox DH. 1969. Relationship of maternal dietary zinc during gestation and lactation to development and zinc, iron, and copper content of the postnatal rat. *J Nutr* 98:303-311.
- Khan AT, Atkinson A, Graham TC, et al. 2000. A preliminary study on the reproductive capability of rats treated with zinc chloride. *Toxicologist* 54:369-370.
- \*Khan AT, Atkinson A, Graham TC, et al. 2001a. A preliminary study on the reproductive capability of mice treated with zinc chloride. *Toxicologist* 60:110.
- \*Khan AT, Atkinson A, Graham TC, et al. 2001b. Effects of low levels of zinc on reproductive performance of rats. *Environ Sci (Tokyo)* 8:367-381.
- \*Khwaja HA, Brudnoy S, Husain L. 1995. Chemical characterization of three summer cloud episodes at Whiteface Mountain. *Chemosphere* 31:3357-3381.
- Kim BJ, Kim YH, Kim S, et al. 2000. Zinc as a paracrine effector in pancreatic islet cell death. *Diabetes* 49:367-372.
- Kim EY, Goto R, Tanabe S, et al. 1998. Distribution of 14 elements in tissues and organs of oceanic seabirds. *Arch Environ Contam Toxicol* 35:638-645.
- Kim J, Paik HY, Joung H, et al. 2003. Effects of dietary phyate and supplemental zinc on zinc absorption in young Korean women. *FASEB J* 17(4-5):A301.
- King JC. 1986. Assessment of techniques for determining human zinc requirements. *J Am Diet Assoc* 86(11):1523-1528.
- \*King JC. 2000. Determinants of maternal zinc status during pregnancy. *Am J Clin Nutr* 71:1334S-1343S.
- King JC. 2001. Effect of reproduction on the bioavailability of calcium, zinc and selenium. *J Nutr* 131:1355S-1358S.
- \*Kinnamon KE. 1963. Some independent and combined effects of copper, molybdenum, and zinc on the placental transfer of zinc-65 in the rat. *J Nutr* 81:312-320.
- Kirby J, Maher W, Krikowa F. 2001. Selenium, cadmium, copper, and zinc concentrations in sediments and mullet (*Mugil cephalus*) from the southern basin of Lake Macquarie, NSW, Australia. *Arch Environ Contam Toxicol* 40:246-256.
- \*Kirchgessner M, Roth HP, Weigand E. 1976. Biochemical changes in zinc deficiency. In: Prasad AS, ed. *Trace elements in human health and disease*. New York, NY: Academic Press, 1:189-225.
- \*Klevay LM, Hyg SD. 1973. Hypercholesterolemia in rats produced by an increase in the ratio of zinc to copper ingested. *Am J Clin Nutr* 26:1060-1068.
- Klucik I, Koprda J. 1979. Hypocalcaemia in subjects after long-term exposure to zinc oxide. *Prac Lek* 31(6):234-237.

## 9. REFERENCES

- Knudsen E, Jensen M, Solgaard P, et al. 1995. Zinc absorption estimated by fecal monitoring of zinc stable isotopes validated by comparison with whole-body retention of zinc radioisotopes in humans. *J Nutr* 125:1274-1282.
- Kodavanti UP, Schladweiler MCJ, Ledbetter AD, et al. 2002. Pulmonary and systemic effects of zinc-containing emission particles in three rat strains: Multiple exposure scenarios. *Toxicol Sci* 70:73-85.
- \*Komori M, Nishio K, Kitada M, et al. 1990. Fetus-specific expression of a form of cytochrome P-450 in human livers. *Biochemistry* 29:4430-4433.
- Kordas K, Lopez P, Rosado JL, et al. 2003. Effects of iron and zinc supplementation on cognitive function of lead-exposed Mexican children. *FASEB J* 17(4-5):A1100.
- Kosman DJ, Henkin RI. 1981. Erythrocyte zinc in patients with taste and smell dysfunction [Letter]. *Am J Clin Nutr* 34:118-119.
- Koutrakis P, Briggs SLK, Leaderer PB. 1992. Source apportionment of indoor aerosols in Suffolk and Onondaga Counties, New York. *Environ Sci Technol* 26(3):521-527.
- Kowalczyk DF, Gunson DE, Shoop CR, et al. 1986. The effects of natural exposure to high levels of zinc and cadmium in the immature pony as a function of age. *Environ Res* 40:285-300.
- \*Kowalska-Wochna E, Moniuszko-Jakoniuk J, Kulikowska E, et al. 1988. The effect of orally applied aqueous solutions of lead and zinc on chromosome aberrations and induction of sister chromatid exchanges in the rat (*Rattus sp.*) *Genetica Polonica* 29(2):181-189.
- \*Kozik MB, Gramza G, Pietrzak M. 1981. Neurosecretion of the hypothalamo-hypophyseal system after intragastric administration of zinc oxide. *Folia Histochem Cytochem* 19:115-122.
- \*Kozik MB, Maziarz L, Godlewski A. 1980. Morphological and histochemical changes occurring in the brain of rats fed large doses of zinc oxide. *Folia Histochem Cytochem* 18:201-206.
- \*Krebs NF. 1999. Zinc transfer to the breastfed infant. *J Mam Gland Biol Neoplasia* 4:259-268.
- Krebs NF. 2000. Overview of zinc absorption and excretion in the human gastrointestinal tract. *J Nutr* 130:1374S-1377S.
- Krebs NF, Hambidge KM, Westcott JE, et al. 2003. Exchangeable zinc pool size in infants is related to key variables of zinc homeostasis. *J Nutr* 133(5S1):1498S-501S.
- Krebs NF, Reidinger CJ, Miller LV, et al. 2000. Zinc homeostasis in healthy infants fed a casein hydrolysate formula. *J Pediatr Gastroenterol Nutr* 30:29-33.
- Krebs NF, Reidinger CJ, Robertson AD, et al. 1994. Growth and intakes of energy and zinc in infants fed human milk. *J Pediatr* 124:32-39.
- Kress N, Hornung H, Herut B, et al. 1998. Concentrations of Hg, Cd, Zn, Fe and Mn in deep sea benthic fauna from the southeastern Mediterranean sea: A comparison between fauna collected at a pristine area and at two disposal sites. *Mar Pollut Bull* 36:911-921.

## 9. REFERENCES

- Kress Y, Gaskin F, Brosnan CF, et al. 1981. Effects on zinc on the cytoskeletal proteins in the central nervous system. *Brain Res* 220:139-149.
- \*Krishnan K, Andersen ME. 1994. Physiologically based pharmacokinetic modeling in toxicology. In: Hayes AW, ed. *Principles and methods of toxicology*. 3rd ed. New York, NY: Raven Press, Ltd., 149-188.
- \*Krishnan U, Hee SSQ. 1992. Ear wax: A new biological monitoring medium for metals? *Bull Environ Contam Toxicol* 48:481-486.
- Krone CA, Harms LC. 2003. Re: Zinc supplement use and risk of prostate cancer. *J Natl Cancer Inst* 95(20):1556-1557.
- Kroneman J, Goedegebuure SA. 1980. [Zinc poisoning in a foal.] *Tijdschr Diergeneesk* 105:1049-1053. (Dutch)
- Kudalkar PR, Brody J, Buccholtz MS. 2004. Zinc induced copper deficiency anemia and leucopenia: A case report. *Blood* 100(11):17b.
- Kumar M. 1992. Accumulation of lead, cadmium, and zinc in aquatic snails from four freshwater sites in Steuben County, Indiana. *Bios* 62(1-2):2-8.
- \*Kumar S. 1976. Effect of zinc supplementation on rats during pregnancy. *Nutr Rep Int* 13:33-36.
- \*Kuschner WG, D'Alessandro A, Wintermeyer SF, et al. 1995. Pulmonary responses to purified zinc oxide fume. *J Invest Med* 43(4):371-378.
- \*Kuschner WG, D'Alessandro A, Wong H, et al. 1997. Early pulmonary cytokine responses to zinc oxide fume inhalation. *Environ Res* 75:7-11.
- \*Kynast G, Saling E. 1986. Effect of oral zinc application during pregnancy. *Gynecol Obstet Invest* 21:117-123.
- \*L'Abbe MR, Fischer PWF. 1984a. The effects of dietary zinc on the activity of copper-requiring metalloenzymes in the rat. *J Nutr* 114:823-828.
- \*L'Abbe MR, Fischer PWF. 1984b. The effects of high dietary zinc and copper deficiency on the activity of copper-requiring metalloenzymes in the growing rat. *J Nutr* 114:813-822.
- Labrenz M, Druschel GK, Thomsen-Ebert T, et al. 2000. Formation of sphalerite (ZnS) deposits in natural biofilms of sulfate-reducing bacteria. *Science* 290:1744-1747.
- LaGoy PK. 1987. Estimated soil ingestion rates for use in risk assessment. *Risk Anal* 7:355-359.
- Lal UB. 1976. Effects of low and high levels of dietary zinc on pathology in rats exposed. Thesis. Cincinnati, OH: Department of Environmental Health, College of Medicine, University of Cincinnati.
- \*Lam HF, Chen LC, Ainsworth D, et al. 1988. Pulmonary function of guinea pigs exposed to freshly generated ultrafine zinc oxide with and without spike concentrations. *Am Ind Hyg Assoc J* 49:333-341.

## 9. REFERENCES

- \*Lam HF, Conner MW, Rogers AE, et al. 1985. Functional and morphologic changes in the lungs of guinea pigs exposed to freshly generated ultrafine zinc oxide. *Toxicol Appl Pharmacol* 78:29-38.
- \*Lam HF, Peisch R, Amdur MO. 1982. Changes in lung volumes and diffusing capacity in guinea pigs exposed to a combination of sulfur dioxide and submicron zinc oxide mixed in a humidified furnace. *Toxicol Appl Pharmacol* 66:427-433.
- Langini SH, Crane MD, Lazzari A, et al. 2002. Placental iron, zinc and copper concentrations and pregnancy outcome. *FASEB J* 16:A280.
- \*Langmyhr FJ, Eyde B, Jonsen J. 1979. Determination of the total content and distribution of cadmium, copper and zinc in human parotid saliva. *Anal Chim Acta* 107:211-218.
- \*Lansdown ABG. 1991. Interspecies variations in response to topical application of selected zinc compounds. *Food Chem Toxicol* 29:57-64.
- Lansdown ABG. 1993. Influence of zinc oxide in the closure of open skin wounds. *Int J Cosmet Sci* 15:83-85.
- \*Lantzy RJ, MacKenzie FT. 1979. Atmospheric trace metals: Global cycle and assessment of man's impact. *Geochim Cosmochim Acta* 43:511-526.
- La Perriere JD, Wagener SM, Bjerklie DM. 1985. Gold-mining effects on heavy metals in streams, Circle Quadrangle, Alaska. *Water Res Bull* 21:245-252.
- Larsen TS, Kristensen JA, Asmund G, et al. 2001. Lead and zinc in sediments and biota from Maarmorilik, West Greenland: An assessment of the environmental impact of mining wastes on an Arctic fjord system. *Environ Pollut* 114:275-283.
- Larsson M, Rossander-Hulthén L, Sandström B, et al. 1996. Improved zinc and iron absorption from breakfast meals containing malted oats with reduced phytate content. *Br J Nutr* 76:677-688.
- Lasenby DC, Vanduy J. 1992. Zinc and cadmium accumulation by the opossum shrimp *Mysis relicta*. *Arch Environ Contam Toxicol* 23:179-183.
- Lasley SM, Gilbert ME. 1999. Lead inhibits the rat *N*-methyl-D-aspartate receptor channel by binding to a site distinct from the zinc allosteric site. *Toxicol Appl Pharmacol* 159:224-233.
- \*Lastra MD, Pastelin R, Herrera MA, et al. 1997. Increment of immune responses in mice perinatal stages after zinc supplementation. *Arch Med Res* 28:67-72.
- Lau JC, Joseph MG, Cherian MG. 1998. Role of placental metallothionein in maternal to fetal transfer of cadmium in genetically altered mice. *Toxicology* 127:167-178.
- \*Lauenstein GG, Robertson A, O'Connor T. 1990. Comparison of trace metal data in mussels and oysters from a mussel watch programme of the 1970s with those from a 1980s programme. *Mar Pollut Bull* 21:440-447.
- Laurant P, Drozbartholet C, Berthelot A. 1991. Effect of a long-term high magnesium intake on metabolism of zinc in Sprague Dawley male rats. *Trace Elements in Medicine* 8(2):70-73.

## 9. REFERENCES

- Leazer TM, Keen CL, Daston GP, et al. 1994. Zn pretreatment, but not co-administration, protects against the developmental toxicity of LPS in the mouse. *Teratology* 49:369-370.
- Leccia MT, Richard MJ, Beani JC, et al. 1993. Protective effect of selenium and zinc on UV-A damage in human skin fibroblasts. *Photochem Photobiol* 58(4):548-553.
- Leeder JS, Kearns GL. 1997. Pharmacogenetics in pediatrics: Implications for practice. *Pediatr Clin North Am* 44(1):55-77.
- \*Leitzmann MF, Stampfer MJ, Wu K, et al. 2003. Zinc supplement use and risk of prostate cancer. *J Natl Cancer Inst* 95(13):1004-1007.
- Leonar A, Gerber GB, Leonard F. 1986. Mutagenicity, carcinogenicity and teratogenicity of zinc. *Mutat Res* 168:343-353.
- \*Leung H-W. 1993. Physiologically-based pharmacokinetic modelling. In: Ballentine B, Marro T, Turner P, eds. *General and applied toxicology*. Vol. 1. New York, NY: Stockton Press, 153-164.
- \*Levine MB, Hall AT, Barrett GW, et al. 1989. Heavy metal concentrations during ten years of sludge treatment to an old-field community. *J Environ Qual* 18:411-418.
- Levy DB, Barbarick KA, Siemer EG, et al. 1992. Distribution and partitioning of trace metals in contaminated soils near Leadville, Colorado. *J Environ Qual* 21:185-195.
- \*Lewis MR, Kokan L. 1998. Zinc gluconate: Acute ingestion. *J Toxicol Clin Toxicol* 36:99-101.
- \*Lewis RJ. 1997. *Hawley's condensed chemical dictionary*. New York, NY: John Wiley & Sons, Inc., 1194-1202.
- Li TY, Kraker AJ, Shaw CF III, et al. 1980. Ligand substitution reactions of metallothioneins with EDTA and apo-carbonic anhydrase. *Proc Natl Acad Sci U S A* 77:6334-6338.
- Li X, Christie P. 2001. Changes in soil solution Zn and pH and uptake of Zn by arbuscular mycorrhizal red clover in Zn-contaminated soil. *Chemosphere* 42:201-207.
- Licastro F, Mocchegiani E, Zannotti M, et al. 1992. Zinc affects the metabolism of thyroid hormones in children with Down's Syndrome: Normalization of thyroid stimulating hormone and of reversal triiodothyronine plasmic levels by dietary zinc supplementation. *Int J Neurosci* 65(1-4):259-268.
- \*Lievens P, Versieck J, Cornelis R, et al. 1977. The distribution of trace elements in normal human liver determined by semi-automated radiochemical neutron activation analysis. *J Radioanal Chem* 37:483-496.
- Lin AMY, Fan SF, Yang DM, et al. 2003. Zinc-induced apoptosis in substantia nigra of rat brain: Neuroprotection by vitamin D3. *Free Radic Biol Med* 34(11):1416-1425.
- Lind T, Lonnerdai B, Stenlund H, et al. 2004. Single, but not combined iron and zinc supplementation improves growth and development of Indonesian infants. *FASEB J* 18(4-5):A844.
- Lindahl M, Leanderson P, Tagesson C. 1998. Novel aspect on metal fume fever: zinc stimulates oxygen radical formation in human neutrophils. *Hum Exp Toxicol* 17:105-110.

## 9. REFERENCES

Linder N, Statter M, Leibovici V, et al. 1988. An oral zinc loading test in psoriasis. *Metabolism* 37:807-809.

\*Lindsay WL. 1979. *Chemical equilibria in soils*. New York, NY: John Wiley & Sons, 210-220.

\*Linn WS, Kleinman M, Bailey R, et al. 1981. Human respiratory responses to an aerosol containing zinc ammonium sulfate. *Environ Res* 25:404-414.

\*Lioy PJ, Wolff GT, Kneip TJ. 1978. Toxic airborne elements in the New York metropolitan area. *J Air Pollut Control Assoc* 28:510-512.

Lisk DJ, Gutenmann WH, Rutzke M, et al. 1992. Survey of toxicants and nutrients in composted waste materials. *Arch Environ Contam Toxicol* 22:190-194.

Liu J, Liu Y, Michalska AE, et al. 1996. Distribution and retention of cadmium in metallothionein I and II null mice. *Toxicol Appl Pharmacol* 136:260-268.

Liu X, Jin T, Nordberg GF, et al. 1994. Influence of zinc and copper administration on metal disposition in rats with cadmium-metallothionein-induced nephrotoxicity. *Toxicol Appl Pharmacol* 126:84-90.

\*Livingston, AL. 1978. Forage plant estrogens. *J Toxicol Environ Health* 4:301-324.

\*Llobet JM, Colomina MT, Domingo JL, et al. 1989. Comparison of the antidotal efficacy of polyaminocarboxylic acids (CDTA and DTPA) with time after acute zinc poisoning. *Vet Hum Toxicol* 31:25-28.

\*Llobet JM, Domingo JL, Colomina MT, et al. 1988a. Subchronic oral toxicity of zinc in rats. *Bull Environ Contam Toxicol* 41:36-43.

\*Llobet JM, Domingo JL, Corbella J. 1988b. Antidotes for zinc intoxication in mice. *Arch Toxicol* 61:321-323.

\*Lloyd TB. 1984. Zinc compounds. In: Grayson M, ed. *Kirk-Othmer encyclopedia of chemical technology*. 3rd Edition, vol. 24. New York, NY: John Wiley and Sons, 851-863.

\*Lloyd TB, Showak W. 1984. Zinc and zinc alloys. In: Grayson M, ed. *Kirk-Othmer encyclopedia of chemical technology*. 3rd Edition, vol. 24. New York, NY: John Wiley and Sons, 835-836.

Lobel PB, Longerich HP, Jackson SE, et al. 1991. A major factor contributing to the high degree of unexplained variability of some elements concentrations in biological tissue: 27 elements in 5 organs of the mussel *Mytilus* as a model. *Arch Environ Contam Toxicol* 21:118-125.

Lobner D, Asrari M. 2003. Neurotoxicity of dental amalgam is mediated by zinc. *J Dent Res* 82(3):243-246.

\*Logue JN, Koontz MD, Hattwick MAW. 1982. A historical prospective mortality study of workers in copper and zinc refineries. *J Occup Med* 24:398-408.

Lohmann RD, Beyesmann D. 1993. Cadmium and zinc mediated changes of the Ca<sup>2+</sup>-dependent endonuclease in apoptosis. *Biochem Biophys Res Commun* 190(3):1097-1103.

## 9. REFERENCES

- \*Lombardi-Boccia G, Aguzzi A, Cappelloni M, et al. 2003. Total-diet study: Dietary intakes of macro elements and trace elements in Italy. *Br J Nutr* 90(6):1117-1121.
- \*Lombeck I, Schnippering HG, Ritzl F, et al. 1975. Absorption of zinc in acrodermatitis enteropathica. *Lancet* i:855.
- Lombi E, Hamon RE, McGrath SP, et al. 2003. Lability of Cd, Cu, and Zn in polluted soils treated with lime, beringite, and red mud and identification of a non-labile colloidal fraction of metals using isotopic techniques. *Environ Sci Technol* 37(5):979-984.
- Lönnerdal B. 2000. Dietary factors influencing zinc absorption. *J Nutr* 130:1378S-1383S.
- Lönnerdal B, Jayawickrama L, Lien EL. 1999. Effect of reducing the phytate content and of partially hydrolyzing the protein in soy formula on zinc and copper absorption and status in infant rhesus monkeys and rat pups. *Am J Clin Nutr* 69:490-496.
- \*Lopez-Artiguez M, Camean AM, Repetto M. 1996. Determination of nine elements in sherry wine by inductively coupled plasma-atomic emission spectrometry. *J AOAC Int* 79(5):1191-1197.
- \*Lopez-Artiguez M, Grilo A, Soria L, et al. 1990. Levels of zinc and lead in wines from area south of Seville. *Bull Environ Contam Toxicol* 45:711-717.
- \*Loranger S, Tetrault M, Kennedy G, et al. 1996. Manganese and other trace elements in urban snow near an expressway. *Environ Pollut* 92:203-211.
- Lores EM, Pennock JR. 1998. The effect of salinity on binding of Cd, Cr, Cu, and Zn to dissolved organic matter. *Chemosphere* 37:861-874.
- Lowe NM, Green A, Rhodes JM, et al. 1993. Studies of human zinc kinetics using the stable isotope <sup>70</sup>Zn. *Clin Sci* 84(1):113-117.
- Lowe NM, Woodhouse LR, Matel JS, et al. 2000. Comparison of estimates of zinc absorption in humans by using 4 stable isotopic tracer methods and compartmental analysis. *Am J Clin Nutr* 71:523-529.
- Lowe NM, Woodhouse LR, Wee J, et al. 1999. Short-term zinc kinetics in pregnant rats fed marginal zinc diets. *J Nutr* 129:1020-1025.
- Lowry SF, Goodgame JT Jr, Smith JC Jr, et al. 1979. Abnormalities of zinc and copper during total parenteral nutrition. *Ann Surg* 189:120-128.
- \*Lü J, Combs GF Jr, Fleet JC. 1990. Time-course studies of pancreatic exocrine damage induced by excess dietary zinc in the chick. *J Nutr* 120:389-397.
- Luef E, Prey T, Kubicek CP. 1991. Biosorption of zinc by fungal mycelial wastes. *Appl Microbiol Biotechnol* 34(5):688-692.
- Lumsden RB, Weir CD. 1945. Subglottic stenosis after exposure to a high concentration of screening smoke (zinc chloride). *Br Med J* i:554-555.
- Luo YM, Christie P, Baker AJM. 2000. Soil solution Zn and pH dynamics in non-rhizosphere soil and in the rhizosphere of *Thlaspi caerulescens* grown in a Zn/Cd-contaminated soil. *Chemosphere* 41:161-164.

## 9. REFERENCES

Luo YM, Yan WD, Christie P. 2001. Soil solution dynamics of Cu and Zn in a Cu- and Zn-polluted soil as influenced by  $\gamma$ -irradiation and Cu-Zn interaction. *Chemosphere* 42:179-184.

\*Luterotti S, Zanić-Grubišić T, Juretić D. 1992. Rapid and simple method for determination of copper, manganese and zinc in rat liver by direct flame atomic-absorption spectrometry. *Analyst (London)* 117(2):141-143.

\*Lytle TF, Lytle JS. 1990. Heavy metals in the eastern oyster *Crassostrea virginica* of the Mississippi Sound. *Bull Environ Contam Toxicol* 44:142-148.

\*Ma LQ, Rao GN. 1997a. Chemical fractionation of cadmium, copper, nickel, and zinc in contaminated soils. *J Environ Qual* 26:259-264.

Ma LQ, Rao GN. 1997b. Heavy metals in the environment-chemical fractionation of cadmium, copper, nickel, and zinc in contaminated soils. *J Environ Qual* 26:259-264.

MacDonald RS. 2000. The role of zinc in growth and cell proliferation. *J Nutr* 130:1500S-1508S.

Macdonald RW, Macdonald DM, O'Brien MC, et al. 1991. Accumulation of heavy metals (lead, zinc, copper, cadmium), carbon and nitrogen in sediments from Strait of Georgia, B.C., Canada. *Marine Chemistry* 34(1-2):109-135.

Machemer SD. 2004. Characterization of airborne and bulk particulate from iron and steel manufacturing facilities. *Environ Sci Technol* 38:381-389.

Madden JD, Grodner RM, Feagley SE, et al. 1991. Minerals and xenobiotic residues in the edible tissues of wild and pond-raised Louisiana crayfish. *J Food Safety* 12:1-15.

\*Maessen O, Freedman B, McCurdy R. 1985. Metal mobilization in home well water systems in Nova Scotia. *J Am Water Works Assoc* 77:73-80.

\*Magee AC, Matrone G. 1960. Studies on growth, copper metabolism and iron metabolism of rats fed high levels of zinc. *J Nutr* 72:233-242.

\*Mahaffey KR, Corneliussen PE, Jelinek CF, et al. 1975. Heavy metal exposure from foods. *Environ Health Perspect* 12:63-69.

\*Mahomed K, James DK, Golding J, et al. 1989. Zinc supplementation during pregnancy: A double blind randomized controlled trial. *Br Med J* 299:826-833.

\*Maita K, Hirano M, Mitsumori K, et al. 1981. Subacute toxicity studies with zinc sulfate in mice and rats. *J Pest Sci* 6:327-336.

Malenky B, Van Grieken R, Vant Dack L, et al. 1983. Atmospheric trace element concentration in Jerusalem, Israel. *Atmos Environ* 17:819-822.

Malo JL, Cartier A, Dolovich J. 1993a. Occupational asthma due to zinc. *J Allergy Clin Immunol* 91(1):309.

Malo JL, Cartier A, Dolovich J. 1993b. Occupational asthma due to zinc. *Eur Resp J* 6:447-450.

## 9. REFERENCES

- \*Malo JL, Malo J, Cartier A, et al. 1990. Acute lung reaction due to zinc inhalation. *Eur Res J* 3:111-114.
- Manary MJ, Hotz C, Krebs NF, et al. 2000. Dietary phytate reduction improves zinc absorption in Malawian children recovering from tuberculosis but not in well children. *J Nutr* 130:2959-2964.
- Marco LM, Jimenez E, Hernandez EA, et al. 2001. Determination of Zn/Cu ratio and oligoelements in serum samples by total reflection X-ray fluorescence spectrometry for cancer diagnosis. *Spectrochim Acta, Part B* 56:2195-2201.
- Maret TR, Skinner KD. 2000. Concentrations of selected trace elements in fish tissue and streambed sediment in the Clark Fork-pend Oreille and Spokane river basins, Washington, Idaho, and Montana, 1998. National water-quality assessment program. Boise Idaho: Report 00-4159.
- \*Marks GE, Moore CE, Kanabrocki EL, et al. 1972. Determination of trace elements in human tissue: I. Cd, Fe, Zn, Mg, and Ca. *Applied Spectroscopy* 26:523-527.
- \*Marquart H, Smid T, Heederik D, et al. 1989. Lung function of welders of zinc-coated mild steel: Cross-sectional analysis and changes over five consecutive work shifts. *Am J Ind Med* 16:289-296.
- \*Marrs TC, Colgrave HF, Edginton JAG, et al. 1988. The repeated dose toxicity of a zinc oxide/hexachloroethane smoke. *Arch Toxicol* 62:123-132.
- \*Martin CJ, Le CXC, Guidotti TL, et al. 1999. Zinc exposure in Chinese foundry workers. *Am J Ind Med* 35:574-580.
- Martin MH, Nickless G, Stenner RD. 1997. Concentrations of cadmium, copper, lead, nickel, and zinc in the alga *Fucus serratus* in the seven estuary from 1971 to 1995. *Chemosphere* 34:325-334.
- Martincic D, Kwokal Z, Peharec Z, et al. 1992. Distribution of zinc, lead, cadmium and copper between seawater and transplanted mussels (*Mytilus galloprovincialis*). *Sci Total Environ* 119:211-230.
- Martinez CE, McBride MB. 1999. Dissolved and labile concentrations of Cd, Cu, Pb, and Zn in aged ferrihydrite-organic matter systems. *Environ Sci Technol* 33:745-750.
- Marx G, Krugliak J, Shaklai M. 1991. Nutritional zinc increases platelet reactivity. *Am J Hematol* 38(3):161-165.
- \*Marzin DR, Vo Phi H. 1985. Study of the mutagenicity of metal derivatives with *Salmonella typhimurium* TA102. *Mutat Res* 155:49-51.
- \*Matarese SL, Matthews JI. 1966. Zinc chloride (smoke bomb) inhalational lung injury. *Chest* 89:308-309.
- Mateus ML, dos Santos APM, Batoreu MC. 2000. Evidence for zinc protection against 2,5-hexanedione toxicity by co-exposure of rats to zinc chloride. *J Appl Toxicol* 20:211-214.
- \*Mathur A, Wallenius K, Abdulla M. 1979. Influence of zinc on onset and progression of oral carcinogenesis in rats. *Acta Odontologica Scand* 37:377-384.

## 9. REFERENCES

- Matusiewicz H, Sturgeon R, Luong V, et al. 1991. Determination of copper, iron, manganese and zinc in river and estuarine water by atom trapping-flame atomic absorption spectrometry. *Fresenius J Anal Chem* 340(1):35-40.
- \*May TW, Wiedmeyer RH, Gober J, et al. 2001. Influence of mining-related activities on concentrations of metals in water and sediment from streams of the Black Hills, South Dakota. *Arch Environ Contam Toxicol* 40:1-9.
- \*Mayer T, Manning PG. 1990. Inorganic contaminants in suspended solids from Hamilton Harbour. *J Great Lakes Res* 16:299-318.
- \*Mayr U, Butsch A, Schneider S. 1992. Validation of two in vitro test systems for estrogenic activities with zearalenone, phytoestrogens and cereal extracts. *Toxicology* 74:135-149.
- \*McBean LD, Mahloudji M, Reinhold JG, et al. 1971. Correlation of zinc concentrations in human plasma and hair. *Am J Clin Nutr* 24:506-509.
- \*McCarthy HT, Ellis PC. 1991. Comparison of microwave digestion with conventional wet-ashing and dry-ashing digestion for analysis of lead, cadmium, chromium, copper, and zinc in shellfish by flame atomic-absorption spectroscopy. *J Assoc Off Anal Chem* 74(3):566-569.
- \*McCord CP. 1960. Metal fume fever as an immunological disease. *Industr Med Surg* 29:101-107.
- \*McCord CP, Friedlander A, Brown WE, et al. 1926. An occupational disease among zinc workers. *Arch Intern Med* 37:641-659.
- \*McGeer J, Brix KV, Skeaff JM, et al. 2003. Inverse relationship between bioconcentration factor and exposure concentration for metals: Implications for hazard assessment of metals in the aquatic environment. *Environ Toxicol Chem* 22(5):1017-1037.
- McGrath D. 1995. Organic micropollutant and trace element pollution of Irish soils. *Sci Total Environ* 164:125-133.
- McKenna IM, Chaney RL, Tao SH, et al. 1992. Interactions of plant zinc and plant species on the bioavailability of plant cadmium to Japanese quail fed lettuce and spinach. *Environ Res* 57(1):73-87.
- McKenna IM, Chaney RL, Williams FM. 1993. The effects of cadmium and zinc interactions on the accumulation and tissue distribution of zinc and cadmium in lettuce and spinach. *Environ Pollut* 79(2):113-120.
- McKinney PE, Brent J, Kulig K. 1994. Acute zinc chloride ingestion in a child: Local and systemic effects. *Ann Emerg Med* 23(6):1383-1387.
- McKinney PE, Brent J, Kulig K. 1995. Zinc chloride ingestion in a child: Exocrine pancreatic insufficiency. *Ann Emerg Med* 25:562.
- McLaughlin MJ, Smolders E. 2001. Background zinc concentrations in soil affect the zinc sensitivity of soil microbial processes--a rationale for a metalleregion approach to risk assessments. *Environ Toxicol Chem* 20(11):2639-2643.

## 9. REFERENCES

- \*McMichael AJ, Dreosti IE, Ryan P, et al. 1994. Neuroal tube defects and maternal serum zinc and copper concentrations in mid-pregnancy: A case-control study. *Med J Aust* 161:478-482.
- McNall AD, Fosmire GJ. 1996. Zinc status does not affect aluminum deposition in tissues of rats. *Biol Trace Elem Res* 53:7-18.
- McNulty TJ, Taylor CW. 1999. Extracellular heavy-metal ions stimulate  $Ca^{2+}$  mobilization in hepatocytes. *Biochem J* 339:555-561.
- Mehra R, Juneja M. 2003. Adverse health effects in workers exposed to trace/toxic metals at the workplace. *Indian J Biochem Biophys* 40:131-135.
- Mendez-Sanchez N, Roldan-Valadez E, Flores MA, et al. 2001. Zinc salts precipitate unconjugated bilirubin *in vitro* and inhibit enterohepatic cycling of bilirubin in hamsters. *Eur J Clin Invest* 31:773-780.
- Meng Z. 1998. Age- and sex-related differences in zinc and lead levels in human hair. *Biol Trace Elem Res* 61:79-87.
- Mentasti E, Abollino O, Aceto M, et al. 1998. Distribution and statistical correlations of major, minor and trace metals in lake environments of Antarctica. *Int J Environ Anal Chem* 71:245-255.
- Meo SA, Al-Khlaiwi T. 2003. Health hazards of welding fumes. *Saudi Med J* 24(11):1176-1182.
- Meret S, Henkin RI. 1971. Simultaneous direct estimation by atomic absorption and spectrophotometry of copper and zinc in serum, urine, and cerebrospinal fluid. *Clin Chem* 17:369-373.
- Messer NT. 1981. Tibiotarsal effusion associated with chronic zinc intoxication in three horses. *J Am Vet Med Assoc* 178:294-297.
- \*Methfessel AH, Spencer H. 1973. Zinc metabolism in the rat: I. Intestinal absorption of zinc. *J Appl Physiol* 34:58-62.
- \*Meurs KM, Breitschwerdt EB, Baty CJ, et al. 1991. Postsurgical mortality secondary to zinc toxicity in dogs. *Vet Hum Toxicol* 33(6):579-583.
- \*Mielke HW, Gonzales CR, Smith MK, et al. 1999. The urban environment and children's health: Soils as an integrator of lead, zinc, and cadmium in New Orleans, Louisiana, U.S.A. *Environ Res* 81:117-129.
- \*Mielke HW, Gonzales CR, Smith MK, et al. 2000. Quantities and associations of lead, zinc, cadmium, manganese, chromium, nickel, vanadium, and copper in fresh Mississippi delta alluvium and New Orleans alluvial soils. *Sci Total Environ* 246:249-259.
- \*Mielke HW, Powell ET, Shah A, et al. 2001. Multiple metal contamination from house paints: Consequences of power sanding and paint scraping in New Orleans. *Environ Health Perspect* 109:973-978.
- Migon C. 1993. Riverine and atmospheric inputs of heavy metals to the Ligurian Sea. *Sci Total Environ* 138:289-299.
- Migon C, Caccian JL. 1993. Estimation of anthropogenic and natural heavy metals in the northwestern Mediterranean rainwater and total atmospheric deposition. *Chemosphere* 27:2389-2396.

## 9. REFERENCES

- \*Miguel AH, Neto FRD, Cardoso JN, et al. 1995. Characterization of indoor air quality in the cities of Sao Paulo and Rio De Janeiro, Brazil. *Environ Sci Technol* 29:338-345.
- Mihelcic G, Suriya B, Juracic M, et al. 1996. History of the accumulation of trace metals in sediments of the Saline Rogoznica Lake (Croatia). *Sci Total Environ* 182:105-115.
- Millan J, Calero M, Sampalo A, et al. 1991. Changes in the angiotensin converting enzyme associated with zinc oral overload. *Medicina Clinia* 96(7):276.
- Miller L, Krebs N. 2000. Development of a compartmental model of human zinc metabolism: Identifiability and multiple studies analyses. *Am J Physiol Regul Integr Comp Physiol* 279:R1671-R1684.
- Miller LV, Hambidge KM, Naake VL, et al. 1994. Size of the zinc pools that exchange rapidly with plasma zinc in humans: Alternative techniques for measuring and relation to dietary zinc intake. *J Nutr* 124:268-276.
- Miller PA, Munkittrick KR, Dixon DG. 1992. Relationship between concentrations of copper and zinc in water, sediment, benthic invertebrates, and tissues of white sucker (*Catostomus commersoni*) at metal-contaminated sites. *Can J Fish Aquat Sci* 49(5):978-984.
- Miller RM, Stitzerschnabel L, Artiola JF, et al. 1992. Effect of four alcohols on adsorption desorption and movement of cadmium, nickel, and zinc through soils. *Chemosphere* 24:1855-1866.
- \*Milliken JA, Waugh D, Kadish ME. 1963. Acute interstitial pulmonary fibrosis caused by a smoke bomb. *Can Med Assoc J* 88:36-39.
- \*Milne DB, Davis CD, Nielsen FH. 2001. Low dietary zinc alters indices of copper function and status in postmenopausal women. *Nutrition* 17:701-708.
- Milunsky A, Morris JS, Jick H, et al. 1992. Maternal zinc and fetal neural tube defects. *Teratology* 46(4):341-348.
- \*Minear RA, Ball RO, Church RL. 1981. Data base for influent heavy metals in publicly owned treatment works. EPA-600/S2-81-220. 1-5.
- Minyard JP Jr, Roberts WE. 1991. State findings on pesticide residues in foods - 1988 and 1989. *J Assoc Off Anal Chem* 74:438-452.
- \*Mirenda RJ. 1986. Acute toxicity and accumulation of zinc in the crayfish *Orconectes virilis* (Hagen). *Bull Environ Contam Toxicol* 37:387-394.
- Mo C, Neilson B. 1991. Variability in measurements of zinc in oysters *C. virginica*. *Mar Pollut Bull* 22:522-525.
- Monti D, Capri M, Cossarizza A, et al. 1992. Inhibition of apoptosis by zinc: A reappraisal. *Biochem Biophys Res Commun* 187(3):1256-1261.
- \*Moore R. 1978. Bleeding gastric erosion after oral zinc sulfate. *Br Med J* i:754.

## 9. REFERENCES

- \*Morales-Rubio A, Salvador A, de la Guardia M. 1992. Microwave muffle furnace assisted decomposition of vegetable samples for flame atomic spectrometric determination of Ca, Mg, K, Fe, Mn and Zn. *Fresenius J Anal Chem* 342(4-5):452-456.
- \*Moreno MA, Marin C, Vinagre F, et al. 1999. Trace element levels in whole blood samples from residents of the city of Badajoz, Spain. *Sci Total Environ* 229:209-215.
- Mori T, Akashi S, Nukada A. 1975. Effects of the inhalation of catalytically active metallic oxide fumes on rabbits. *Int Arch Occup Environ Health* 36:29-39.
- Morrison GMP, Revitt DM, Ellis JB. 1990. Metal speciation in separate stormwater systems. *Wat Sci Technol* 22:53-60.
- Morselli L, Zappoli S, Tirabassa T. 1992. Characterization of the effluents from a municipal solid waste incinerator plant and of environmental impact. *Chemosphere* 24:1775-1784.
- \*Morselli PL, Franco-Morselli R, Bossi L. 1980. Clinical pharmacokinetics in newborns and infants: Age-related differences and therapeutic implications. *Clin Pharmacokin* 5:485-527.
- \*Mueller EJ, Seger DL. 1985. Metal fume fever: A review. *J Emerg Med* 2:271-274.
- Muench D. 1992. Soil contamination beneath asphalt roads by polynuclear aromatic hydrocarbons, zinc, lead and cadmium. *Sci Total Environ* 126(1-2):49-60.
- Mulchi CL, Mastradone PJ, Armbruster JA. 1990. Investigations of trace metal concentrations in crops and soils near a fossil-fuel power plant in Maryland. *J Air Waste Manage Assoc* 40:185-193.
- \*Mulhern SA, Stroube WB, Jacobs RM. 1986. Alopecia induced in young mice by exposure to excess dietary zinc. *Experientia* 42:551-553.
- Muller FLL, Kester DR. 1991. Measurement of the different forms of zinc in Narragansett Bay water based on the rate of uptake by a chelating resin. *Marine Chemistry* 33(1-2):171-186.
- \*Mumma RO, Raupach DC, Sahadewan K, et al. 1990. National survey of elements and radioactivity in municipal incinerator ashes. *Arch Environ Contam Toxicol* 19:399-404.
- \*Mumma RO, Raupach DC, Sahadewan K, et al. 1991. Variation in the elemental composition of municipal refuse incinerator ashes with time of sampling. *Chemosphere* 23:391-395.
- \*Mumma RO, Raupach DC, Waldman JP, et al. 1984. National survey of elements and other constituents in municipal sewage sludges. *Arch Environ Contam Toxicol* 13:75-83.
- Murata K, Araki S. 1991. Autonomic nervous system dysfunction in workers exposed to lead, zinc, and copper in relation to peripheral-nerve conduction: A study of R-R interval variability. *Am J Ind Med* 20(5):663-671.
- \*Murphy JV. 1970. Intoxication following ingestion of elemental zinc. *JAMA* 212:2119-2120.
- \*Murray LM. 1926. An analysis of sixty cases of drug poisoning. *Arch Pediat* 43:193-196.

## 9. REFERENCES

- Murray S, Tell LA, Bush M. 1997. Zinc toxicosis in a cebeles ape (*Macaca nigra*) following ingestion of pennies. *J Zoo Wild Med* 28:101-104.
- \*Murthy L, Petering HG. 1976. Effect of dietary zinc and copper interrelationships on blood parameters of the rat. *J Agric Food Chem* 24:808-811.
- Murthy RC, Holovack MJ. 1991. Ultrastructural changes in rat lungs exposed to combinations of cadmium, zinc, copper, and nickel. *J Submicroscopic Cytol Pathol* 23(2):289-293.
- Nadakumaran M, Dashti HM, Al-Saleh E, et al. 2003. Transport kinetics of zinc, copper, selenium, and iron in perfused human placental lobule in vitro. *Mol Cell Biochem* 252(1-2):91-96.
- Nagpal NK. 2000. Ambient water quality guidelines for zinc: Overview. *GRAI* 14:1-14.
- Nakamichi N, Chidlow G, Osborne NN. 2003. Effects of intraocular injection of a low concentration of zinc on the rat retina. *Neuropharmacology* 45(5):637-648.
- Nakamoto RJ, Hassler TJ. 1992. Selenium and other trace elements in bluegills from agricultural return flows in the San Joaquin Valley, California. *Arch Environ Contam Toxicol* 22:88-98.
- Namminga H, Wilhm J. 1977. Heavy metals in water, sediments, and chironomids. *J Water Pollut Control Fed* 1977:1725-1731.
- \*NAS. 1977. Drinking water and health--inorganic solutes. National Academy of Sciences. Washington, DC: National Academy Press, 1:205-229, 299-304, 315-316, 447-460.
- \*NAS. 1980. Drinking water and health. National Academy of Sciences. Washington, DC: National Academy Press, 3:315-321.
- \*NAS/NRC. 1979. Zinc. Subcommittee on Zinc, Committee on Medical and Biologic Effects of Environmental Pollutants, Division of Medical Sciences, National Academy of Sciences/National Research Council. Baltimore, MD: University Park Press.
- \*NAS/NRC. 1989a. Biologic markers in reproductive toxicology. National Academy of Sciences/National Research Council. Washington, DC: National Academy Press, 15-35.
- \*NAS/NRC. 1989b. Recommended dietary allowances. National Academy of Sciences/National Research Council. Washington, DC: National Academy Press, 10th ed., 205-213.
- NATICH. 1993. Acceptable ambient concentration guidelines or standards by pollutant. National Air Toxics Information Clearinghouse. Washington, DC: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. June 22, 1993.
- \*Nelson LSJ, Jacobs FA, Brushmiller JG. 1985. Solubility of calcium and zinc in model solutions based on bovine and human milks. *J Inorg Biochem* 24:255-265.
- Nelson LSJ, Jacobs FA, Brushmiller JG. 1987. Coprecipitation modulates the solubility of minerals in bovine milk. *J Inorg Biochem* 39:173-179.
- Neto JB, Vieira JGH, Shuhama T, et al. 1991. Interaction among zinc, glucose, and insulin in normal individuals during glucose and tolbutamide perfusion. *Biol Trace Elem Res* 28(2):123-133.

## 9. REFERENCES

- \*Neuberger JS, Hollowell JG. 1982. Lung cancer excess in an abandoned lead-zinc mining and smelting area. *Sci Total Environ* 25:287-294.
- Neuhauser EF, Cukic ZV, Malecki MR, et al. 1995. Bioconcentration and biokinetics of heavy metals in the earthworm. *Environ Pollut* 89(3):293-301.
- \*Neve J, Hanocq M, Peretz A, et al. 1991. Pharmacokinetic study of orally administered zinc in humans: Evidence for an enteral recirculation. *Eur J Drug Metab Pharmacokinet* 16(4):315-323.
- Neve J, Hanocq M, Peretz A, et al. 1992. Absorption and metabolism of oral zinc gluconate in humans in fasting state, during, and after a meal. *Biol Trace Elem Res* 32:201-212.
- Newman HM, Yang RSH, Magnusson KR. 2002. Effects of developmental exposure to lead, magnesium and zinc mixtures on spatial learning and expression of NMDA receptor subunit mRNA in Fischer 344 rats. *Toxicol Lett* 126:107-119.
- \*Ni B, Wang P, Luo Y, et al. 1991. Determination of activable isotopic tracers of zinc by neutron-activation analysis for study of bioavailability of zinc. *J Radioanal Nucl Chem* 151(2):255-260.
- Nielsen NH, Menné T. 1997. Allergic contact dermatitis caused by zinc pyrithione associated with pustular psoriasis. *Am J Contact Dermatitis* 8:170-171.
- \*Nielson KK, Mahoney AW, Williams LS, et al. 1991. X-ray fluorescence measurements of Mg, P, S, Cl, K, Ca, Mn, Fe, Cu and Zn in fruits, vegetables and grain products. *J Food Compos Anal* 4(1):39-51.
- \*NIOSH. 1976. National occupational hazard survey (1970). Cincinnati, OH: National Institute for Occupational Safety and Health, Department of Health and Human Services.
- \*NIOSH. 1984a. NIOSH manual of analytical methods. 3rd ed. Eller PM, ed. Cincinnati, OH: U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health. DHHS (NIOSH) publication no. 84-100.
- \*NIOSH. 1984b. National occupational exposure survey (1980-83). Cincinnati, OH: National Institute for Occupational Safety and Health, Department of Health and Human Services.
- NIOSH. 1987. Registry of toxic effects of chemical substances. 1985-1986 Edition, vol. 5. Sweet DV, ed. National Institute for Occupational Safety and Health. U.S. Government Printing Office, Washington, DC.
- \*NIOSH. 1990. NIOSH pocket guide to chemical hazards. U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Cincinnati, OH.
- NIOSH. 1992. Recommendations for occupational safety and health: Compendium of policy documents and statements. Cincinnati, OH: National Institute for Occupational Safety and Health, Department of Health and Human Services, 1-205.
- \*NIOSH 1994. NIOSH manual of analytical methods. U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Cincinnati, OH.

## 9. REFERENCES

- \*NIOSH. 2003a. NIOSH pocket guide to chemical hazards. Zinc chloride. Washington, DC: National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/npg/npg.html>. June 6, 2003.
- \*NIOSH. 2003b. NIOSH pocket guide to chemical hazards. Zinc oxide. Washington, DC: National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/npg/npg.html>. June 6, 2003.
- NIOSH/OSHA. 1981. Occupational health guidelines for chemical hazards. Government Printing Office, National Institute for Occupational Safety and Health/Occupational Safety and Health Administration, DHHS.
- \*Nishimura M. 1987. Zinc competitively inhibits calcium-dependent release of transmitter at the mouse neuromuscular junction. *Pflugers Archiv* 410:623-626.
- \*Nishioka H. 1975. Mutagenic activities of metal compounds in bacteria. *Mutat Res* 31:185-189.
- Nishiyama S, Nakamura T, Higashi A, et al. 1991. Infusion of zinc inhibits serum calcitonin levels in patients with various zinc status. *Calcif Tissue Res* 49(3):179-182.
- Nolting RF, Helder W. 1991. Lead and zinc as indicators for atmospheric and riverine particle transport to sediments in the Gulf of Lions. *Oceanol Acta* 14(4):357-367.
- \*Norrstrom AC, Jacks G. 1998. Concentration and fractionation of heavy metals in roadside soils receiving de-icing salts. *Sci Total Environ* 218:161-174.
- \*NRC. 1993. National Research Council. Pesticides in the diets of infants and children. Washington, DC: National Academy Press.
- \*Nriagu JO. 1989. A global assessment of natural sources of atmospheric trace metals. *Nature* 338:47-49.
- \*Nriagu JO, Davidson CI. 1980. Zinc in the atmosphere. In: Nriagu JO, ed. *Zinc in the environment, Vol. 1: Cycling and characterization*. New York, NY: John Wiley and Sons, Inc., 1-15.
- \*Nriagu JO, Lawson G, Wong HKT, et al. 1996. Dissolved trace metals in lakes Superior, Erie, and Ontario. *Environ Sci Technol* 30:178-187.
- \*Nriagu JO, Pacyna JM. 1988. Quantitative assessment of worldwide contamination of air, water and soils by trace metals. *Nature* 333:134-139.
- \*Obeck DK. 1978. Galvanized caging as a potential factor in the development of the "fading infant" or "white monkey" syndrome. *Lab Anim Sci* 28:698-704.
- Oberleas D. 1996. Mechanism of zinc homeostasis. *J Inorg Biochem* 62:231-241.
- O'Brien KO, Zavaleta N, Caulfield LE, et al. 2000. Prenatal iron supplements impair zinc absorption in pregnant Peruvian women. *J Nutr* 130:2251-2255.
- O'Connor TP, Ehler CN. 1991. Results from the NOAA national status and trends program on distribution and effects of chemical contamination in the coastal and estuarine United States. *Environ Monit Assess* 17:33-49.

## 9. REFERENCES

- \*O'Dell BJ. 1969. Effect of dietary components upon zinc availability. *Am J Clin Nutr* 22:1315-1322.
- O'Dell BL. 1968. Trace elements in embryonic development. *Fed Proc* 27:199-206.
- O'Dell BL. 1992. Cysteine-rich intestinal protein (CRIP): A new intestinal zinc transport protein. *Nutr Rev* 50(8):232-233.
- Odland JO, Nieber E, Romanova N, et al. 2003. Intercommunity and temporal variation of eleven essential and five toxic elements in human placentas from deliveries in thirteen Arctic and sub-Arctic areas of Russia and Norway. *J Environ Monitor* 5(1):166-174.
- \*Oestreicher P, Cousins RJ. 1985. Copper and zinc absorption in the rat: Mechanism of mutual antagonism. *J Nutr* 115:159-166.
- Ogden L, Graham T, Mahboob M, et al. 2002. Effects of zinc chloride on reproductive parameters of CD-1 mice. *Toxicologist* 66:33.
- \*Ogiso T, Ogawa N, Miura T. 1979. Inhibitory effect of high dietary zinc on copper absorption in rats: II. Binding of copper and zinc to cytosol proteins in the intestinal mucosa. *Chem Pharm Bull (Tokyo)* 27(2):515-521.
- \*Ohanian EV. 1986. Health effects of corrosion products in drinking water. *Trace Substances in Environmental Health* 20:122-138.
- \*Ohnesorge FK, Wilhelm M. 1991. Zinc. *Metals and their compounds in the environment*. Weinheim, NY: VCH, 1309-1333.
- \*Ohno H, Doi R, Yamamura K, et al. 1985. A study of zinc distribution in erythrocytes of normal humans. *Blut* 50:113-116.
- Oliver MF. 1988. Reducing cholesterol does not reduce mortality. *JACC* 12:814-817.
- \*O'Neil MJ, Smith A, Heckelman PE. 2001. *Merck index*. 10th ed. Rahway, NJ: Merck & Co., Inc.
- \*Ong CN, Chia SE, Foo SC, et al. 1993. Concentrations of heavy metals in maternal and umbilical cord blood. *BioMetals* 6:61-66.
- Onosaka S, Tetsuchikawahara N, Min KS. 2002. Paradigm shift in zinc: Metal pathology. *Tohoku J Exp Med* 196:1-7.
- Oosting JS, Lemmens AG, Vandenberg GJ, et al. 1991. Iron, copper and zinc status in rats fed supplemental nickel. *Biol Trace Elem Res* 31(1):63-70.
- Ordenez A, Loreda J, Demiguel E, et al. 2003. Distribution of heavy metals in the street dusts and soils of an industrial city in northern Spain. *Arch Environ Contam Toxicol* 44:160-170.
- OSHA. 1982. Access to employee exposure and medical records, proposed modification; request for comments and notice of public hearing. U.S. Occupational Safety and Health Administration. *Fed Regist* 47:30420-30438.

## 9. REFERENCES

OSHA. 1992. Air contaminants. U.S. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1910.1000.

\*OSHA. 2003a. Occupational safety and health standards. Limits for air contaminants. Washington, DC: U.S. Occupational Safety and Health Administration. 29 CFR 1910.1000, Table Z-1. <http://www.osha.gov/comp-links.html>. June 6, 2003.

\*OSHA. 2003b. Occupational safety and health standards for shipyard employment. Air contaminants. Washington, DC: U.S. Occupational Safety and Health Administration. 29 CFR 1915.1000. <http://www.osha.gov/comp-links.html>. June 6, 2003.

\*OSHA. 2003c. Safety and health regulations for construction. Gases, vapors, fumes, dusts, and mists. Washington, DC: U.S. Occupational Safety and Health Administration. 29 CFR 1926.55, Appendix A. <http://www.osha.gov/comp-links.html>. June 6, 2003.

Osman K, Akesson A, Berglund M, et al. 2000. Toxic and essential elements in placentas of Swedish women. *Clin Biochem* 33(2):131-138.

\*OTA. 1990. Neurotoxicity: Identifying and controlling poisons of the nervous system. Washington, DC: Office of Technology Assessment, U.S. Congress. OTA-BA-436. April 1990.

Outridge PM, Noller BN. 1991. Accumulation of toxic trace elements by freshwater vascular plants. *Rev Environ Contam Toxicol* 121:1-63.

\*Owen GM, Brozek J. 1966. Influence of age, sex and nutrition on body composition during childhood and adolescence. In: Falkner F, ed. *Human development*. Philadelphia, PA: WB Saunders, 222-238.

\*Pacyna JM, Bartonova A, Cornille P, et al. 1989. Modelling of long-range transport of trace elements: A case study. *Atmos Environ* 23:107-114.

Paksy K, Varga B, Lazar P. 1996. Zinc protection against cadmium-induced infertility in female rats. Effect of zinc and cadmium on the progesterone production of cultured granulosa cells. *BioMetals* 10:27-36.

\*Pal N, Pal B. 1987. Zinc feeding and conception in the rats. *Int J Vitam Nutr Res* 57:437-440.

Palmer JB, Rand GM. 1977. Trace metal concentrations in two shellfish species of commercial importance. *Bull Environ Contam Toxicol* 18:512-520.

Palmiter RD. 1994. Regulation of metallothionein genes by heavy metals appears to be mediated by a zinc-sensitive inhibitor that interacts with a constitutively active transcription factor, MTF-1. *Proc Natl Acad Sci USA* 91:1219-1223.

\*Panayi AE, Spyrou NM, Iversen BS, et al. 2002. Determination of cadmium and zinc in Alzheimer's brain tissue using inductively coupled plasma mass spectrometry. *J Neurol Sci* 195:1-10.

\*Paode RD, Sofuoglu SC, Sivadechathep J, et al. 1998. Dry deposition fluxes and mass size distributions of Pb, Cu, and Zn measured in southern Lake Michigan during aeolus. *Environ Sci Technol* 32:1629-1635.

## 9. REFERENCES

- \*Paquin PR, Gorsuch JW, Apte S, et al. 2002. The biotic ligand model: A historical overview. *Comp Biochem Physiol C* 133:3-35.
- Pare CMB, Sandler M. 1954. Smoke-bomb pneumonitis: Description of a case. *J Army Med Corp* 100:320-322.
- Park J, Presley BJ. 1997. Trace metal contamination of sediments and organisms from the Swan Lake area of Galveston Bay. *Environ Pollut* 98:209-221.
- \*Parodi A, Priano L, Rebora A. 1991. Chronic zinc deficiency in a patient with psoriasis and alcoholic liver cirrhosis. *Int J Dermatol* 30:45-47.
- Parveen Z, Khuhro MI, Rafiq N. 2003. Market basket survey for lead, cadmium, copper, chromium, nickel, and zinc in fruits and vegetables. *Bull Environ Contam Toxicol* 71:1260-1264.
- \*Pascoe GA, Blanchet RJ, Linder G. 1996. Food chain analysis of exposures and risks to wildlife at a metals-contaminated wetland. *Arch Environ Contam Toxicol* 30:306-318.
- Pasqualatto D, Fernandez MC. 2003. N-Acetylcysteine in zinc chloride poisoning. *Toxicol Lett* 144(suppl 1):s72.
- Paterson PG, Mas A, Sarkar B, et al. 1991. The influence of zinc binding ligands in fetal circulation on zinc clearance across the in situ perfused guinea pig placenta. *J Nutr* 121(3):338-344.
- \*Patterson JW, Allen HE, Scala JJ. 1977. Carbonate precipitation for heavy metals pollutants. *J Water Pollut Control Fed* 2397-2410.
- \*Patterson KY, Veillon C, Moser-Veillon PB, et al. 1992. Determination of zinc stable isotopes in biological materials using isotope dilution inductively coupled plasma mass spectrometry. *Anal Chim Acta* 258(2):317-324.
- \*Patterson WP, Winkelman M, Perry MC. 1985. Zinc-induced copper deficiency: Megamineral sideroblastic anemia. *Ann Intern Med* 103:385-386.
- Paulson AJ, Curl HC Jr, Feeley RA. 1989. Estimates of trace metal inputs from non-point sources discharged into estuaries. *Mar Pollut Bull* 20:549-555.
- \*Pecoud A, Donzel P, Schelling JL. 1975. Effects of foodstuffs on the absorption of zinc sulfate. *Clin Pharmacol Ther* 17:469-474.
- Pedroli BM, Maasdam WAC, Verstraten JM. 1990. Zinc in poor sandy soils and associated groundwater: A case study. *Sci Total Environ* 91:59-77.
- Pempkowiak J, Sikora A, Biernacka E. 1999. Speciation of heavy metals in marine sediments vs their bioaccumulation by mussels. *Chemosphere* 39:313-321.
- \*Pennington JAT, Schoen SA. 1996. Contributions of food groups to estimated intakes of nutritional elements: Results from the FDA total diet studies, 1982-1991. *Int J Vitam Nutr Res* 66(4):342-349.
- \*Pennington JAT, Capar SG, Parfitt CH, et al. 1996. History of the food and drug administration's total diet study (part II) 1987-1993. *J AOAC Int* 79:163-170.

## 9. REFERENCES

- \*Pennington JAT, Young BE, Wilson DB, et al. 1986. Mineral content of foods and total diets: The selected minerals in foods survey, 1982 to 1984. *J Am Diet Assoc* 86(7):876-891.
- \*Pennington JAT, Young BE, Wilson D. 1989. Nutritional elements in U.S. diets: Results from the total diet study, 1982 to 1986. *J Am Diet Assoc* 89(5):659-664.
- \*Perry DF. 1990. Flame atomic absorption spectrometric determination of serum zinc: Collaborative study. *J Assoc Off Anal Chem* 73:619-621.
- Persson E, Henriksson J, Tallkvist J, et al. 2003. Transport and subcellular distribution of intranasally administered zinc in the olfactory system of rats and pikes. *Toxicology* 191(2-3):97-108.
- Petrie JJB, Row PG. 1977. Dialysis anaemia caused by subacute zinc toxicity. *Lancet* i:1178-1180.
- Pettilä V, Takkunen O, Tukiainen P. 2000. Zinc chloride smoke inhalation: A rare cause of severe acute respiratory distress syndrome. *Intensive Care Med* 26:215-217.
- \*Philipp R, Hughes A, Robertson M. 1982. Stomach cancer and soil metal content. *Br J Cancer* 45:482.
- \*Piao F, Yokoyama K, Ma N, et al. 2003. Subacute toxic effects of zinc on various tissues and organs of rats. *Toxicol Lett* 145(1):28-35.
- Pimentel JL, Cook ME, Greger JL. 1992a. Anemia induced by ingestion of excess zinc in chicks: Importance of red blood cell turnover. *J Nutr Biochem* 3(3):146-150.
- Pimentel JL, Greger JL, Cook ME, et al. 1992b. Iron metabolism in chicks fed various levels of zinc and copper. *J Nutr Biochem* 3(3):140-145.
- Pinheiro FS, Jorge SM, Martinez FE. 1992. Plasma zinc and copper levels in maternal, placental intervillous space and cord blood. *Nutr Res* 12(3):367-373.
- Piscator M. 1976. Health hazards from inhalation of metal fumes. *Environ Res* 11:268-270.
- Pistorius D. 1976. Early reactions of the rat lung to respiratory air containing zinc oxide. *Beitr Silikose Forsch Pneumokoniose* 28:69-77.
- Pistorius D, Rosmanith J, Breining H. 1976. Intake and distribution of zinc in rat organisms after zinc oxide inhalation in male and female animals. *Beitr Silikose Forsch Pneumokoniose* 28:92-101.
- \*Pita FW, Hyne NJ. 1975. The depositional environment of zinc, lead and cadmium in reservoir sediments. *Water Res* 9:701-706.
- Plessi M, Bertelli D, Monzani A. 1997. Determination of aluminum and zinc in infant formulas and infant foods. *J Food Comp Anal* 10:36-42.
- Pluess A, Ferrell RE Jr. 1991. Characterization of lead and other heavy metals in fly ash from municipal waste incinerators. *Haz Waste Haz Mat* 8:275-292.
- Pocino M, Malave I, Baute L. 1992. Mitogenic effect of zinc on lymphocytes from strains of mice that are either high or low-responder to T-cell mitogens. *Immunopharmacol Immunotoxicol* 14(1-2):295-321.

## 9. REFERENCES

- Poissant L, Koprivnjak JF, Matthieu R. 1997. Some persistent organic pollutants and heavy metals in the atmosphere over a St. Lawrence River valley site (Villeroy) in 1992. *Chemosphere* 34:567-585.
- Pokorny B, Ribaric-Lasnik C. 2000. Lead, cadmium, and zinc in tissues of roe deer (*Capreolus capreolus*) near the lead smelter in the Koroska Region (northern Slovenia). *Bull Environ Contam Toxicol* 64:20-26.
- Polissar AV, Hopke PK, Poirot RL. 2001. Atmospheric aerosol over Vermont: Chemical composition and sources. *Environ Sci Technol* 35:4604-4621.
- Pollack SV. 1982. Wound healing: A review. *J Dermatol Surg Oncol* 8:667-672.
- Poole KG, Elkin BT, Bethke RW. 1998. Organochlorine and heavy metal contaminants in wild mink in western Northwest Territories, Canada. *Arch Environ Contam Toxicol* 34:406-413.
- Popko J, Olszewski S, Hukalowicz K, et al. 2003. Lead, cadmium, copper and zinc concentrations in blood and hair of mothers of children with locomotor system malfunctions. *Pol J Environ Stud* 12(3):375-379.
- Porea TJ, Belmont JW, Mahoney DH. 2000. Zinc-induced anemia and neutropenia in an adolescent. *J Pediatr* 136:688-690.
- Pories WH, Strain WH. 1974. Zinc sulfate therapy in surgical patients. In: Pories WJ, Strain WH, Hsu JM, et al., eds. *Clinical applications of zinc metabolism*. Springfield, IL: C.C. Thomas, 139-157.
- \*Porter KG, McMaster D, Elmes ME, et al. 1977. Anaemia and low serum-copper during zinc therapy. *Lancet* ii:774.
- \*Poswillo DE, Cohen B. 1971. Inhibition of carcinogenesis by dietary zinc. *Nature* 231:447-448.
- \*Potter JL. 1981. Acute zinc chloride ingestion in a young child. *Ann Emerg Med* 10:267-269.
- Powell JH, Powell RE. 2001. Trace elements in fish overlying subaqueous tailings in the tropical west Pacific. *Water Air Soil Pollut* 125:81-104.
- Prasad AS. 1979. *Zinc in human nutrition*. Boca Raton, FL: CRC Press, Inc.
- \*Prasad AS. 1988. Clinical spectrum and diagnostic aspects of human zinc deficiency. In: Prasad AS, ed. *Essential and toxic trace elements in human health and disease*. New York, NY: Alan R. Liss, Inc., 3-53.
- \*Prasad AS. 1991. Discovery of human zinc deficiency and studies in an experimental human model. *Am J Clin Nutr* 53:403-412.
- Prasad AS. 1993. Essentiality and toxicity of zinc. *Scand J Work Environ Health* 19:134-136.
- Prasad R, Nath R. 1993. Zinc transport in monkey renal brush border membrane vesicles and its interaction with cadmium: A kinetic study. *J Trace Elem Exp Med* 6:95-107.

## 9. REFERENCES

- \*Prasad AS, Brewer GJ, Schoomaker EB, et al. 1978. Hypocupremia induced by zinc therapy in adults. *JAMA* 240:2166-2168.
- \*Prasad AS, Miale A Jr, Farid Z, et al. 1963b. Zinc metabolism in patients with the syndrome of iron deficiency anemia, hepatosplenomegaly, dwarfism, and hypogonadism. *J Lab Clin Med* 61:537-549
- \*Prasad AS, Schulert AR, Sandstead HH, et al. 1963a. Zinc, iron, and nitrogen content of sweat in normal and deficient subjects. *J Lab Clin Med* 62:84-89.
- Prasad R, Kaur D, Kumar V. 1996. Kinetic characterization of zinc binding to brush border membranes from rat kidney cortex: Interaction with cadmium. *Biochim Biophys Acta* 1284:69-78.
- \*Pratt GC, Palmer K, Wu CY, et al. 2000. An assessment of air toxics in Minnesota. *Environ Health Perspect* 108:815-825.
- \*Presley BJ, Taylor RJ, Boothe PN. 1990. Trace metals in Gulf of Mexico oysters. *Sci Total Environ* 97/98:551-593.
- \*Provost JJ, Munnis P, Morine GH. 1993. Alternate method for determining zinc in hair. *Microchemical Journal* 47(1-2):28-32.
- Przyslawski J, Schlegel-Zawadzka M. 2003. The intake and consumption pattern of selected minerals in daily food rations taken by budgetary and non-budgetary workers in Poland. *Trace Elem Electrolytes* 20(2):108-112.
- Quehee SS. 1994. Availability of elements in leaded/unleaded automobile exhausts, a leaded paint, a soil, and some mixtures. *Arch Environ Contam Toxicol* 27:145-153.
- \*Ragaini RC, Ralston HR, Roberts N. 1977. Environmental trace metal contamination in Kellogg, Idaho, near a lead smelting complex. *Environ Sci Technol* 11:773-781.
- Raghunath R, Tripathi RM, Khandekar RN, et al. 1997. Retention times of Pb, Cd, Cu and Zn in children's blood. *Sci Total Environ* 207:133-139.
- \*Raghunath R, Tripathi RM, Sastry VN, et al. 2000. Heavy metals in maternal and cord blood. *Sci Total Environ* 250:135-141.
- Rajaratnam G, Winder C, An M. 2002. Metals in drinking water from new housing estates in the Sydney area. *Environ Res* 89:165-170.
- Ramachandran V, D'Souza TJ. 1998. Plant uptake of cadmium, zinc, and manganese in soils amended with sewage sludge and city compost. *Bull Environ Contam Toxicol* 61:347-354.
- \*Ramadurai J, Shapiro C, Kozloff M, et al. 1993. Zinc abuse and sideroblastic anemia. *Am J Hematology* 42(2):227-228.
- \*Ramelow GJ, Webre CL, Mueller CS, et al. 1989. Variations of heavy metals and arsenic in fish and other organisms from the Calcasieu River and Lake, Louisiana. *Arch Environ Contam Toxicol* 18:804-818.

## 9. REFERENCES

- Rath FW, Kortge R, Haase P, et al. 1991. The influence of zinc administration on the development of experimental lung metastases after an injection of tumor cells into the tail vein of rats. *Exp Pathol* 41(4):215-217.
- Ray S, McLeese DW, Waiwood BA, et al. 1980. The disposition of cadmium and zinc in *Pandalus montagui*. *Arch Environ Contam Toxicol* 9:675-681.
- Reddy KJ, Wang L, Gloss SP. 1995. Solubility and mobility of copper, zinc, and lead in acidic environments. *Plant Soil* 171:53-58.
- Reidiker M, Williams R, Devlin R, et al. 2003. Exposure to particulate matter. *Environ Technol* 37:2084-2093.
- Reimann C, Nishavaara H, Decaritat P, et al. 1996. Regional variation of snowpack chemistry in the vicinity of nickel and Zapoljarnij, Russia, Northern Finland and Norway. *Sci Total Environ* 182:147-158.
- \*Reinhold JG, Faradji B, Abadi P, et al. 1991. Decreased absorption of calcium, magnesium, and phosphorous by humans due to increased fiber and phosphorous consumption as wheat bread. *Nutr Rev* 49(7):204-206.
- Repke JT. 1991. Calcium, magnesium, and zinc supplementation and perinatal outcome. *Clin Obstet Gynecol* 34(2):262-267.
- Rhoden CR, Lawrence J, Godleski JJ, et al. 2004. N-Acetylcysteine prevents lung inflammation after short-term inhalation exposure to concentrated ambient particles. *Toxicol Sci* 79(2):296-303.
- \*Rice KC. 1999. Trace-element concentrations in steamed sediment across the conterminous United States. *Environ Sci Technol* 33:2499-2504.
- \*Richards MP, Cousins RJ. 1975. Mammalian zinc homeostasis: Requirement for RNA and metallothionein synthesis. *Biochem Biophys Res Commun* 64:1215-1223.
- Riffo M, Leiva S, Astudillo J. 1992. Effect of zinc on human sperm motility and the acrosome reaction. *Int J Androl* 15(3):229-237.
- Rijstenbil JW, Poortvliet TCW. 1992. Copper and zinc in estuarine water: Chemical speciation in relation to bioavailability to the marine planktonic diatom *Ditylum brightwellii*. *Environ Toxicol Chem* 11(11):1615-1625.
- Riley MR, Boesewetter DE, Kim AM, et al. 2003. Effects of metals Cu, Fe, Ni, V, and Zn on rat lung epithelial cells. *Toxicology* 190(3):171-184.
- Riveros-Rosas H, Pfeifer GD, Lynam DR, et al. 1997. Personal exposure to elements in Mexico City air. *Sci Total Environ* 198:79-96.
- Riviere MR, Chouroulinkov I, Fuerin M. 1959. Testicular tumors in the rat after injection of zinc chloride. *Comptes Rendus Hebdomadaires des Seances de l'Academie Sciences (Paris)* 249:2649-2651.
- \*Rivlin RS. 1983. Misuse of hair analysis for nutritional assessment. *Am J Med* 75:489-493.

## 9. REFERENCES

- \*Robinson FR, Fulton RM, Martinez M, et al. 1991. Zinc toxicosis in dogs. *Canine Practice* 16(3):27-31.
- Rodrigues LEA, Mathias CMD, Orrico M, et al. 1991. Antiulcerative action of zinc ions: Effect on lysosomal stability of gastric mucosa. *Trace Elements in Medicine* 8(3):109-112.
- \*Rohrs LC. 1957. Metal-fume fever from inhaling zinc oxide. *Arch Ind Health* 16:42-47.
- Rosman KJR, Kempt NK. 1991. Determination of copper, zinc, cadmium and lead in marine sediments SD-M-2/TM and BCSS-1 and dogfish muscle DORM-1 by isotope dilution mass spectrometry. *Geostandards Newsletter* 15(1):117-119.
- Rossanderhulten L, Brune M, Sandstrom B, et al. 1991. Competitive inhibition of iron absorption by manganese and zinc in humans. *Am J Clin Nutr* 54(1):152-156.
- \*Rossowska MJ, Nakamoto T. 1992. Caffeine decreases zinc and metallothionein levels in heart of newborn and adult rats. *Pediatr Res* 32(3):330-332.
- \*Roth-Bassell HA, Clydesdale FM. 1991. The influence of zinc, magnesium, and iron on calcium uptake in brush border membrane vesicles. *J Am Coll Nutr* 10(1):44-49.
- \*Rowan DJ, Kalff J. 1993. Predicting sediment metal concentrations in lakes without point sources. *Water Air Soil Pollut* 66:145-161.
- \*Roy WR. 1994. Groundwater contamination from municipal landfills in the USA. In: Adriano DC, ed. *Contamination of groundwaters: Case studies*. Northwood, UK: Scientific Review, 411-446.
- \*Rudd T, Lake DL, Mehrotra I, et al. 1988. Characterization of metal forms in sewage sludge by chemical extraction and progressive acidification. *Sci Total Environ* 74:149-175.
- Ruick G. 1991. Results of a monitoring program for the evaluation of copper, lead, cadmium, zinc, and nickel intakes with food. *Z Lebensm Unters Forsch* 192(3):249-251.
- Sadiq M, Mian AA. 1994. Lead, titanium and zinc in air particulate at Dhahran, Saudi Arabia, during and after Kuwait oil fires. *Sci Total Environ* 152:113-118.
- \*Saeed M, Fox RL. 1977. Relations between suspension pH and zinc solubility in acid and calcareous soils. *Soil Sci* 124:199-204.
- Saito S, Okabe M, Yoshida K, et al. 1999. The effect of heavy metal-induced metallothionein on Zn, Cu and Cd accumulation in rat kidney. *Pharmacol Toxicol* 84:255-260.
- Saito S, Yoshida K. 1998. The effect of gold on zinc in liver and in metallothionein. *Res Commun Mol Pathol Pharmacol* 100(1):83-91.
- Saito S, Yoshizu S, Kojima Y. 1995. Relative zinc-binding capacity of metallothionein: Studies in renal cytosols from zinc-injected rats. *Res Commun Mol Pathol Pharmacol* 90(3):363-371.
- Salgueiro MJ, Zubillaga MB, Lysionek AE, et al. 2000. Bioavailability, biodistribution, and toxicity of biozn-aas: A new zinc source. *Comparative studies in rats*. *Nutrition* 16:762-766.

## 9. REFERENCES

- \*Saltzman BE, Cholak J, Schafer LJ, et al. 1985. Concentrations of six metals in the air of eight cities. *Environ Sci Technol* 19:328-333.
- \*Saltzman BE, Gross SB, Yeager DW, et al. 1990. Total body burdens and tissue concentrations of lead, cadmium, copper, zinc, and ash in 55 human cadavers. *Environ Res* 52:126-145.
- \*Saltzman MB, Smith EM, Koo C. 2002. Excessive oral zinc supplementation. *J Pediatr Hematol Oncol* 24(7):582-584.
- \*Samman S, Roberts DCK. 1987. The effect of zinc supplements on plasma zinc and copper levels and the reported symptoms in healthy volunteers. *Med J Australia* 146:246-249.
- \*Samman S, Roberts DCK. 1988. The effect of zinc supplementation on lipoproteins and copper status. *Atherosclerosis* 70:247-252.
- Sandberg AS. 1991. The effect of food processing on phytate hydrolysis and availability of iron and zinc. *Adv Exp Med Biol* 289:499-508.
- \*Sanders JR, El Kherbawy MI. 1987. The effect of pH on zinc adsorption equilibria and exchangeable zinc pools in soils. *Environ Pollut* 44:165-176.
- Sandstead HH. 1973. Zinc nutrition in the United States. *Amer J Clin Nutr* 26:1251-1260
- Sandstead HH. 1978. Zinc interference with copper metabolism. *JAMA* 240:2188-2189.
- \*Sandstead HH. 1981. Zinc in human nutrition. In: Bronner F, Coburn JW, eds. *Disorders of mineral metabolism*. New York, NY: Academic Press, 94-159.
- Sandstead HH. 1994. Understanding zinc: Recent observations and interpretations. *J Lab Clin Med* 124:322-327.
- Sandstead HH, Frederickson CJ, Penland JG. 2000. History of zinc as related to brain function. *J Nutr* 130(2S):496S-502S.
- Sandstead HH, Penland JG, Alcock NW, et al. 1998. Effects of repletion with zinc and other micronutrients on neuropsychologic performance and growth of Chinese children. *Am J Clin Nutr* 68(2):470S-475S.
- \*Sandstead HH, Wallwork JC, Halas ES, et al. 1983. Zinc and central nervous function. In: Sarkar B, ed. *Biological aspects of metals and metal related diseases*. New York, NY: Raven Press, 225-241.
- Sandström B. 1992. Dose dependence of zinc and manganese absorption in man. *Proc Nutr Soc* 51(2):211-218.
- Sandström B. 1995. Considerations in estimates of requirements and critical intake of zinc. Adaption, availability and interactions. *Analyst* 120:913-915.
- \*Sandström B, Abrahamson H. 1989. Zinc absorption and achlorhydria. *Eur J Clin Nutr* 43:877-879.
- \*Sandström B, Cederblad A. 1980. Zinc absorption from composite meals: II. Influence of the main protein source. *Am J Clin Nutr* 33:1778-1783.

## 9. REFERENCES

- \*Sandström B, Sandberg AS. 1992. Inhibitory effects of isolated inositol phosphates on zinc absorption in humans. *Journal of Trace Elements and Electrolytes in Health and Disease* 6(2):99-103.
- Sanfilippo DJ, Eisenga BH, Kuslikis BI. 2001. Acute zinc toxicity in a child receiving total peripheral nutrition (TPN). *J Toxicol Clin Toxicol* 39:553.
- Santon A, Giannetto S, Sturniolo GC, et al. 2002. Interactions between Zn and Cu in LEC rats, an animal model of Wilson's disease. *Histochem Cell Biol* 117:275-281.
- Santore RC, Mathew R, Paquin PR, et al. 2002. Application of the biotic ligand model to predicting zinc toxicity to rainbow trout, fathead minnow, and *Daphnia magna*. *Comp Biochem Physiol C* 133:271-285
- \*Sanudo-Wilhelmy SA, Gill GA. 1999. Impact of the clean water act on the levels of toxic metals in urban estuaries: The Hudson River Estuary revisited. *Environ Sci Technol* 33:3477-3481.
- Sax NI. 1984. *Dangerous properties of industrial materials*. 6th ed. New York, NY: Van Nostrand Reinhold, 2751-2757.
- Saxena R, Bedwal RS, Mathur RS. 1989. Zinc toxicity and male reproduction in rats: A histological and biochemical study. *Trace Elem Med* 6:119-133.
- \*Schalscha EB, Morales M, Vergara I, et al. 1982. Chemical fractionation of heavy metals in wastewater-affected soils. *J Water Pollut Control Fed* 54:175-180.
- \*Schenker MB, Speizer FE, Taylor JO. 1981. Acute upper respiratory symptoms resulting from exposure to zinc chloride aerosol. *Environ Res* 25:317-324.
- \*Schiffer RB, Sunderman FW Jr, Baggs RB, et al. 1991. The effects of exposure to dietary nickel and zinc upon humoral and cellular immunity in SJL mice. *J Neuroimmunol* 34:229-239.
- \*Schlicker SA, Cox DH. 1968. Maternal dietary zinc, and development and zinc, iron, and copper content of the rat fetus. *J Nutr* 95:287-294.
- \*Schmitt CJ, Brumbaugh WG. 1990. National contaminant biomonitoring program: Concentrations of arsenic, cadmium, copper, lead, mercury, selenium, and zinc in U.S. freshwater fish, 1976-1984. *Arch Environ Contam Toxicol* 19:731-747.
- \*Schock MR, Neff CH. 1988. Trace metal contamination from brass fittings. *J Am Waterworks Assoc* 80:47-56.
- Schroder JJ, Cousins RJ. 1991. Metallothionein and zinc metabolism in hepatocytes. *Methods Enzymol* 205:575-584.
- \*Schroeder HA, Nason AP, Tipton IH. 1967. Essential trace metals in man: Zinc: Relation to environmental cadmium. *J Chronic Dis* 20:179-210.
- Schuhmacher M, Domingo JL, Corbella J. 1993. Chromium, copper, and zinc concentrations in edible vegetables grown in Tarrogonia Province, Spain. *Bull Environ Contam Toxicol* 50:514-521.

## 9. REFERENCES

- Schuhmacher M, Domingo JL, Llobet JM, et al. 1993. Dietary intake of copper, chromium and zinc in Tarragona Province, Spain. *Sci Total Environ* 132:3-10.
- Schuhmacher M, Domingo JL, Llobet JM, et al. 1994. Cadmium, chromium, copper, and zinc in rice and rice field soil from southern Catalonia, Spain. *Bull Environ Contam Toxicol* 53:54-60.
- \*Schuhmacher M, Meneses M, Granero S, et al. 1998. Trace metals in vegetation grown near to an old municipal solid waste incinerator from Catalonia, Spain. *Fresenius Environ Bull* 7:42-50.
- \*Scudlark JR, Conko KM, Church TM. 1994. Atmospheric wet deposition of trace elements to Chesapeake Bay: CBAD study year 1 results. *Atmos Environ* 28(8):1487-1498.
- \*Seal CJ, Heaton FW. 1983. Chemical factors affecting the intestinal absorption of zinc *in vitro* and *in vivo*. *Br J Nutr* 560:317-324.
- Serfaty-Lacrosniere C, Wood RJ, Voytko D, et al. 1995. Hypochlorhydria from short-term omeprazole treatment does not inhibit intestinal absorption of calcium, phosphorus, magnesium or zinc from food in humans. *J Am Coll Nutr* 14(4):364-368.
- Serjeant BR, Galloway RE, Gueri MC. 1970. Oral zinc sulphate in sickle cell ulcers. *Lancet* ii:891-893.
- \*Setchell BP, Waites GMH. 1975. The blood-testis barrier. In: Creep RO, Astwood EB, Geiger SR, eds. *Handbook of physiology: Endocrinology V*. Washington, DC: American Physiological Society.
- Shabalina LP, Spiridonova VS. 1988. Toxicity and character of the effect of some zinc compounds. *J Hyg Epidemiol Microbiol Immunol* 32:397-405.
- Shabanzadeh AP, Shuaub A, Yang T, et al. 2004. Effect of zinc in ischemic brain injury in an embolic model of stroke in rats. *Neurosci Lett* 356(1):69-71.
- Shacklette HT. 1980. Elements in fruits and vegetables from areas of commercial production in the conterminous United States. Geological survey professional paper 1178. Washington, DC: United States government printing office.
- \*Shacklette HT, Boerngen JG. 1984. Element concentrations in soils and other surficial materials of the conterminous United States. A U.S. geological survey professional paper 1270. Washington, DC: United States government printing office.
- Shafey TM, McDonald MW, Dingle JG. 1991. Effects of dietary calcium and available phosphorus concentration on digesta pH and on the availability of calcium, iron, magnesium and zinc from the intestinal contents of meat chickens. *Br Poult Sci* 32(1):185-194.
- \*Shah DR, Singh PP, Gupta RC, et al. 1988. Effect of oral zinc sulphate on serum lipids and lipoproteins in human subjects. *Indian J Physiol Pharmacol* 32:47-50.
- \*Shahin U, Yi SM, Paode RD, et al. 2000. Long-term elemental dry deposition fluxes measured around Lake Michigan with an automated dry deposition sampler. *Environ Sci Technol* 34:1887-1892.
- \*Sharrett AR, Carter AP, Orheim RM, et al. 1982a. Daily intake of lead, cadmium, copper, and zinc from drinking water: The Seattle study of trace metal exposure. *Environ Res* 28:456-475.

## 9. REFERENCES

- \*Sharrett AR, Orheim RM, Carter AP, et al. 1982b. Components of variation in lead, cadmium, copper, and zinc concentration in home drinking water: The Seattle study of trace metal exposure. *Environ Res* 28:476-498.
- \*Shaw JCL, Bury AJ, Barber A, et al. 1982. A micromethod for the analysis of zinc in plasma or serum by atomic absorption spectrophotometry using graphite furnace. *Clin Chim Acta* 118:229-239.
- Sheffet A, Thind I, Miller A, et al. 1982. Cancer mortality in a pigment plant utilizing lead and zinc chromates. *Arch Environ Health* 37:44-52.
- \*Shiller AM, Boyle E. 1985. Dissolved zinc in rivers. *Nature* 317:49-52.
- \*Sibley PK, Ankley GT, Cotter AM, et al. 1996. Predicting chronic toxicity of sediments spiked with zinc: An evaluation of the acid-volatile sulfide model using a life-cycle test with the midge *Chironomus tentans*. *Environ Toxicol Chem* 15(12):2102-2112.
- Siddiq MM, Tsirka SE. 2004. Modulation of zinc toxicity by tissue plasminogen activator. *Mol Chem Neuropathol* 25(1):162-171.
- Sidle RC, Chambers JC, Amacher MC. 1991. Fate of heavy metals in an abandoned lead-zinc tailing pond: II. Sediment. *J Environ Qual* 20:752-758.
- Sileo L, Beyer WM. 1985. Heavy metals in white-tailed deer living near a zinc smelter in Pennsylvania. *J Wildlife Dis* 21:289-296.
- \*Simmer K, Lort-Phillips L, James C, et al. 1991. A double-blind trial of zinc supplementation in pregnancy. *Eur J Clin Nutr* 45:139-144.
- Simons TJB. 1995. The affinity of human erythrocyte porphobilinogen synthase for  $Zn^{2+}$  and  $Pb^{2+}$ . *Eur J Biochem* 234:178-183.
- Sinex SA, Wright DA. 1988. Distribution of trace metals in the sediments and biota of Chesapeake Bay. *Mar Pollut Bull* 19:425-431.
- Singh KP, Zaidi SIA, Raisuddin S, et al. 1992. Effect of zinc on immune functions and host resistance against infection and tumor challenge. *Immunopharmacol Immunotoxicol* 14(4):813-840.
- Smith R. 1984. NIWR interlaboratory comparison study No. 83/A: Determination of trace metals in river sediment. Pretoria, South Africa: Council for Scientific and Industrial Research, National Institute for Water Research. Research report No. 602, 1-33.
- Smith DJT, Harrison RM, Luhana L, et al. 1996. Concentrations of particulate airborne polycyclic aromatic hydrocarbons and metals collected in Lahore, Pakistan. *Atmos Environ* 30:4031-4040.
- \*Smith SE, Larson EJ. 1946. Zinc toxicity in rats: Antagonistic effects of copper and liver. *J Biol Chem* 163:29-38.
- Smith JW, Tokach MD, Goodband RD, et al. 1997. Effects of the interrelationship between zinc oxide and copper sulfate on growth performance of early-weaned pigs. *J Anim Sci* 75:1861-1866.

## 9. REFERENCES

- \*Smolders E, Degryse F. 2002. Fate and effect of zinc from tire debris in soil. *Environ Sci Technol* 36:3706-3710.
- \*Sohler A, Wolcott P, Pfeiffer CC. 1976. Determination of zinc in fingernails by non-flame atomic absorption spectroscopy. *Clin Chim Acta* 70:391-398.
- \*Song MR, Adham NF. 1979. Evidence for an important role of prostaglandin-E2 and prostaglandin-F2 in the regulation of zinc transport in the rat. *J Nutr* 109:2152-2159.
- \*Song MK, Kim YY, Heng MCY, et al. 1992. Prostaglandin interacts with steroid sex hormones in the regulation of intestinal zinc transport. *Comp Biochem Physiol* 101A(3):477-481.
- Soto-Ferreiro RM, Casais Laino C, Bermejo-Barrera P. 1991. Comparative study of sample preparation methods for zinc, iron and copper determination in mussels by flame atomic-absorption spectrometry. *Anal Lett* 24(12):2277-2292.
- \*Soto-Jimenez M, Paez-Osuna F. 2001. Cd, Cu, Pb, and Zn in lagoonal sediments from Mazatlan Harbor (se Gulf of California): Bioavailability and geochemical fractioning. *Bull Environ Contam Toxicol* 66:350-356.
- \*Spencer H, Kramer L, Osis D. 1985. Zinc metabolism in man. *J Environ Pathol Toxicol Oncol* 5:265-278.
- \*Spencer H, Norris C, Osis D. 1992. Further studies of the effect of zinc on intestinal absorption of calcium in man. *J Am Coll Nutr* 11(5):561-566.
- \*Spencer H, Osis D, Kramer L, et al. 1976. Intake, excretion, and retention of zinc in man. In: Prasad AS, ed. *Trace elements in human health and disease. Vol. 1: Zinc and copper.* New York, NY: Academic Press, 345-361.
- \*Spencer H, Rosoff B. 1966. Effect of chelating agents in the removal of zinc-65 in man. *Health Phys* 12:475-480.
- Spencer H, Rosoff B, Feldstein A, et al. 1965b. Metabolism of zinc-65 in man. *Radiat Res* 24:432-445.
- Spencer H, Vankinscott V, Lewin I, et al. 1965a. Zinc-65 metabolism during low and high calcium intake in man. *J Nutr* 86:169-177.
- \*Spicer CW, Buxton BE, Holdren MW, et al. 1996. Variability of hazardous air pollutants in an urban area. *Atmos Environ* 30:3443-3456.
- \*Sprenger MD, McIntosh AW, Hoenig S. 1988. Concentrations of trace elements in yellow perch (*Perca flavescens*) from six acidic lakes. *Water Air Soil Pollut* 37:375-388.
- \*Sprenger M, McIntosh A, Lewis T. 1987. Variability in concentrations of selected trace elements in water and sediment of six acidic lakes. *Arch Environ Contam Toxicol* 16:383-390.
- Stabile A, Pesaresi MA, Stabile AM, et al. 1991. Immunodeficiency and plasma zinc levels in children with downs syndrome: A long-term follow-up of oral zinc supplementation. *Clin Immunol Immunopathol* 58(2):207-216.

## 9. REFERENCES

- Stanley JS, Stockton RA. 1986. Broad scan analysis of the fy82 national human adipose tissue survey specimens, V. Trace elements. Washington, DC: U.S. Environmental Protection Agency, 72. EPA560586039.
- Steffensen IL, Mesna OJ, Melhuus A, et al. 1991. Mitogenicity and metallothionein induction: Two separate effects of zinc ions on human mononuclear blood cells. *Pharmacol Toxicol* 68(6):445-449.
- Steimle FW, Zdanowicz VS, Gadbois DF. 1990. Metals and organic contaminants in Northwest Atlantic deep-sea tilefish tissues. *Mar Pollut Bull* 21:530-535.
- Stein A, Varekamp C, Vanegmond C, et al. 1995. Zinc concentrations in groundwater at different scales. *J Environ Qual* 24:1205-1214.
- Steinbach OM, Wolterbeek HT. 1993. Effects of zinc on rat hepatoma HTC cells and primary cultured rat hepatocytes. *Toxicol Appl Pharmacol* 118(2):245-254.
- Stewart FM, Monteiro LR, Furness RW. 1997. Heavy metal concentrations in Cory's Shearwater, *Calonectris diomedea*, fledglings from the Azores, Portugal. *Bull Environ Contam Toxicol* 58:115-122.
- Stewart FM, Thompson DR, Furness RW. 1994. Seasonal variation in heavy metal levels in tissue of common guillemots, *Uria aalge* from Northwest Scotland. *Arch Environ Contam Toxicol* 27:168-175.
- Stillman MJ. 1995. Metallothioneins. *Coordination Chemistry Reviews* 144:461-511.
- \*Stocks P, Davies RI. 1964. Zinc and copper content of soils associated with the incidence of cancer of the stomach and other organs. *Br J Cancer* 18:14-24.
- \*Stokinger HE. 1981. The metals: Zinc, Zn. In: Clayton GD, Clayton FE, eds. *Patty's industrial hygiene and toxicology*. Vol. 2A: Toxicology. 3rd ed. New York, NY: John Wiley and Sons, 2033-2049.
- \*Stoner GD, Shimkin MB, Toxell MC, et al. 1976. Test for carcinogenicity of metallic compounds by the pulmonary tumor response in strain A mice. *Cancer Res* 36(5):1744-1747.
- Storelli MM, Marcotrigiano GO. 2000. Environmental contamination in bottlenose dolphin (*Tursiops truncatus*): Relationship between levels of metals, methylmercury, and organochlorine compounds in an adult female, her neonate, and a calf. *Bull Environ Contam Toxicol* 64:333-340.
- \*Storm GL, Fosmire GJ, Bellis ED. 1994. Persistence of metals in soil and selected vertebrates in the vicinity of the Palmerton zinc smelters. *J Environ Qual* 23:508-514.
- \*Straube EF, Schuster NH, Sinclair AJ. 1980. Zinc toxicity in the ferret. *J Comp Pathol* 90:355-361.
- \*Stroud S. 1991. Too much zinc has a domino effect. *Am J Nurs* 91(2):61.
- Struyf H, Vangrieken R. 1993. An overview of wet deposition of micropollutants to the North Sea. *Atmos Environ* 27a:2669-2687.
- \*Sturgis CC, Drinker P, Thomson RM. 1927. Metal fume fever: I. Clinical observations on the effect of the experimental inhalation of zinc oxide by two apparently normal persons. *J Ind Hyg* 9:88-97.

## 9. REFERENCES

- \*Sturniolo GC, Montino C, Rossetto L, et al. 1991. Inhibition of gastric acid secretion reduces zinc absorption in man. *J Am Coll Nutr* 10(4):372-375.
- \*Stutz DR, Janusz SJ, eds. 1988. Hazardous materials injuries. A handbook for pre-hospital care. 2nd ed. Beltsville, MD: Bradford Communications Corporation, 412-413.
- Subcommittee on Mineral Toxicity in Animals. 1980. Zinc: Mineral tolerance of domestic animals. Washington, DC: National Academy of Sciences, Subcommittee on Mineral Toxicity in Animals, 553-577.
- \*Suber RL. 1989. Clinical pathology for toxicologists. In: Hayes AW, ed. Principles and methods of toxicology. 2nd ed. New York, NY: Raven Press, Ltd., 485-519.
- Subramanian KS. 1988. Determination of trace elements in biological fluids other than blood by graphite furnace atomic absorption spectrometry. *Prog Anal Spectrosc* 11:511-608.
- Subramanian KS, Connor JW, Meranger JC. 1991. Leaching of antimony, cadmium, copper, lead, silver, tin and zinc from copper piping with non-lead-based soldered joints. *J Environ Sci Health A26(6)*:911-929.
- Sukumar A. 2002. Factors influencing levels of trace elements in human hair. *Rev Environ Contam Toxicol* 175:45-78.
- Summer W, Haponik E. 1981. Inhalation of irritant gases. *Clin Chest Med* 2:273-287.
- \*Summerfield AL, Steinberg FU, Gonzalez JG. 1992. Morphological findings in bone marrow precursor cells in zinc induced copper deficiency anemia. *Am J Clin Pathol* 97(5):665-668.
- Sunanda BS, Rao S, Raju TR. 1998. Corticosterone attenuates zinc-induced neurotoxicity in primary hippocampal cultures. *Brain Res* 791:295-298.
- Sundelin B, Eriksson AK. 2001. Mobility and bioavailability of trace metals in sulfidic coastal sediments. *Environ Toxicol Chem* 20:748-756.
- Sung W. 1995. Some observations on surface partitioning of Cd, Cu, and zinc in estuaries. *Environ Sci Technol* 29:1303-1312.
- \*Sutomo FX, Woutersen RA, Vandenhamer CJA. 1992. Effects of elevated zinc intake on the copper metabolism and the pancreas of the mouse. *J Trace Elem Electrolytes Health Dis* 6(2):75-80.
- \*Sutton WR, Nelson VE. 1937. Studies on zinc. *Proc Soc Exp Biol Med* 36:211-213.
- \*Sweet CW, Vermette SJ, Landsberger S. 1993. Sources of toxic trace elements in urban air in Illinois. *Environ Sci Technol* 27:2502-2510.
- Szefer P, Pempkowiak J, Skwarzec B, et al. 1993. Concentration of selected metals in penguins and other representative fauna of Antarctica. *Sci Total Environ* 138:281-288.
- \*Szpunar CB, Lambert JB, Buikstra JE. 1978. Analysis of excavated bone by atomic absorption. *Am J Phys Anthropol* 48:199-202.

## 9. REFERENCES

- Szuster-Ciesielska A, Stachura A, Slotwinska M, et al. 2000. The inhibitory effect of zinc on cadmium-induced cell apoptosis and reactive oxygen species (ROS) production in cell cultures. *Toxicology* 145:159-171.
- \*Szymanska JA, Swietlicka EA, Piotrowski JK. 1991. Protective effect of zinc in the hepatotoxicity of bromobenzene and acetaminophen. *Toxicology* 66(1):81-91.
- \*Tacnet F, Watkins DW, Ripoche P. 1990. Studies of zinc transport into brush-border membrane vesicles isolated from pig small intestine. *Biochim Biophys Acta* 1024:323-330.
- Takagi Y, Matsuda S, Imai S, et al. 1986. Trace elements in human hair: An international comparison. *Bull Environ Contam Toxicol* 36:793-800.
- \*Takagi Y, Matsuda S, Imai S, et al. 1988. Survey of trace elements in human nails: An international comparison. *Bull Environ Contam Toxicol* 41:690-695.
- Tamura T. 2003. Relationship between plasma zinc levels and body-mass index (BMI) in pregnancy. *FASEB J* 17(4-5):A302.
- Tan BKH, Bay BH, Sit KH, et al. 1995. Acute zinc administration prolongs hexobarbitone-induced sleeping time in C57/6J mice. *Pharmacol Res* 32(4):233-236.
- \*Taper LJ, Hinnens ML, Ritchey SJ. 1980. Effects of zinc intake on copper balance in adult females. *Am J Clin Nutr* 33:1077-1082.
- Taubeneck MW, Daston GP, Rogers JM, et al. 1995. Tumor necrosis factor- $\alpha$  alters maternal and embryonic zinc metabolism and is developmentally toxic in mice. *J Nutr* 125:908-919.
- \*Taylor HE, Antweiler RC, Roth DA, et al. 2001. The occurrence and distribution of selected trace elements in the upper Rio Grande and tributaries in Colorado and northern New Mexico. *Arch Environ Contam Toxicol* 41:410-426.
- Teillet L, Tacnet F, Ripoche P, et al. 1995. Effect of aging on zinc and histidine transport across rat intestinal brush-border membranes. *Mech Ageing Dev* 79:151-167.
- Telisman S, Cvitkovic P, Jurasovic J, et al. 2000. Semen quality and reproductive endocrine function in relation to biomarkers of lead, cadmium, zinc, and copper in men. *Environ Health Perspect* 108:45-53.
- Terse PS, Komiskey HL. 1997. Modulation of a competitive *N*-methyl-D-aspartate receptor antagonist binding by zinc oxide. *Brain Res* 744:347-350.
- Terytze K. 1993. Enrichment and distribution of heavy metals and other elements in surface sediments of Berlin waters (Germany) and their surroundings. *Acta Hydrochim Hydrobiol* 21:8-20.
- Tessier A, Fortin D, Belzile N, et al. 1996. Metal sorption to diagenetic iron and manganese oxyhydroxides and associated organic matter: Narrowing the gap between field and laboratory measurements. *Geochim Cosmochim Acta* 60:387-404.
- Thomas DJ, Winchurch RA, Adler WH. 1989. Influence of age upon the metabolism of zinc in livers of C57BL/6J mice. *Mech Ageing Dev* 47:241-251.

## 9. REFERENCES

- Thomas EA, Bailey LB, Kauwell GA, et al. 1992. Erythrocyte metallothionein response to dietary zinc in humans. *J Nutr* 122(12):2408-2414.
- \*Thompson ED, McDermott JA, Zerkle TB, et al. 1989. Genotoxicity of zinc in 4 short-term mutagenicity assays. *Mutat Res* 233:267-272.
- Thrush PW, ed. 1968. A dictionary of mining and terms. Washington, DC: U.S. Department of Interior.
- Torre M, Rodriguez AR, Saura-Calixto F. 1991. Effects of dietary fiber and phytic acid on mineral availability. *Crit Rev Food Sci Nutr* 30(2):1-22.
- Towers NR, Young PW, Wright DE. 1981. Effect of zinc supplementation on bovine plasma copper. *N Z Vet J* 29:113-114.
- Travaglini P, Mocchegiani E, Demin C, et al. 1992. Modifications of thymulin titers in patients affected with prolonged low or high zinc circulating levels are independent of patients age. *Arch Gerontol Geroatr* S3:349-357.
- Treble RG, Thompson TS. 1998. Trace metals in moose (*Alces alces*) liver. *Bull Environ Contam Toxicol* 60:531-537.
- \*TRI02. 2004. TRI explorer: Providing access to EPA's toxics release inventory data. Washington, DC: Office of Information Analysis and Access. Office of Environmental Information. U.S. Environmental Protection Agency. Toxics Release Inventory. <http://www.epa.gov/triexplorer/>. December 28, 2004.
- \*Tripathi RM, Raghunath R, Mahapatra S, et al. 2001. Blood lead and its effect on Cd, Cu, Zn, Fe and hemoglobin levels of children. *Sci Total Environ* 277:161-168.
- \*Trocine RP, Trefry JH. 1996. Metal concentrations in sediment, water and clams from the Indian River Lagoon, Florida. *Mar Pollut Bull* 32(10):754-759.
- Troskot B, Simicevic VN, Dodig M, et al. 1997. The protective effect of zinc sulphate pretreatment against duodenal ulcers in the rat. *BioMetals* 10:325-329.
- \*Tsuda T, Inoue T, Kojima M, et al. 1995. Market basket and duplicate portion estimation of dietary intakes of cadmium, mercury, arsenic, copper, manganese, and zinc by Japanese adults. *J AOAC Int* 78(6):1363-1367.
- Turecki T, Ewan RC, Stahr HM. 1995. Effect of dietary phytic acid and cadmium on the availability of cadmium, zinc, copper, iron, and manganese to rats. *Bull Environ Contam Toxicol* 54:760-767.
- Turgeon-O'Brien H, Ferland S. 1996. The relationship between maternal zinc (Zn) intake and neonatal anthropometric measurements in newborn infants. *FASEB J* 10:A517.
- Turnbull AJ, Wood RJ, Russell RM. 1992. Hypochlorhydria does not inhibit zinc absorption in the rat. *Nutr Res* 12(8):999-1008.
- \*Turner JA. 1921. An occupational dermatosis among zinc oxide workers. *Public Health Rep* 36:2727-2732.

## 9. REFERENCES

- Turnlund JR, Keyes WR, Hudson CA, et al. 1991. A stable isotope study of zinc, copper, and iron absorption and retention by young women fed vitamin B6 deficient diets. *Am J Clin Nutr* 54(6):1059-1064.
- \*Tyler LD, McBride MB. 1982. Mobility and extractability of cadmium, copper, nickel, and zinc in organic and mineral soil columns. *Soil Science* 134:198-205.
- Udom AO, Brady FO. 1980. Reactivation in vitro of zinc-requiring apo-enzymes by rat liver zinc-thionein. *Biochem J* 187:329-335.
- Uenlue E, Guemguem B. 1993. Concentrations of copper and zinc in fish and sediments from the Tigris River in Turkey. *Chemosphere* 26:2055-2061.
- \*Underwood EJ. 1977. Trace elements in human and animal nutrition. 4th ed. New York, NY: Academic Press.
- \*Uriu-Hare JY, Stern JS, Keen CL. 1989. Influence of maternal dietary Zn intake on expression of diabetes-induced teratogenicity in rats. *Diabetes* 38:1282-1290.
- \*USGS. 2000b. Concentrations of selected trace elements in fish tissue and Concentrations of selected trace elements in fish tissue and streambed sediment in the Clark Fork-Pend Oreille and Spokane River Basins, Washington, Idaho, and Montana, 1998. Boise, Idaho: U.S. Geological Survey. Water-Resources Investigation Report 00-4159.
- \*USGS. 2000a. Organic compounds and trace elements in fish tissue and bed sediment from streams in the Yellowstone River Basin, Montana and Wyoming, 1998. Cheyenne, WY: U.S. Geological Survey. Water-Resources Investigations Report 00-4190.
- \*USGS. 2001. Zinc. U.S. Geological Survey, Mineral Commodity Summaries. <http://minerals.usgs.gov/minerals/pubs/commodity/zinc>. June 5, 2003.
- \*USGS. 2002. Trace elements and organic compounds in streambed sediment and fish tissue of coastal New England streams, 1998-99. Denver, CO: U.S. Geological Survey. Water-Resources Investigations Report 02-4179.
- \*USGS. 2003. Zinc. U.S. Geological Survey, Mineral Commodity Summaries. <http://minerals.usgs.gov/minerals/pubs/commodity/zinc>. June 5, 2003.
- Uzzo RG, Leavis P, Hatch W, et al. 2002. Zinc inhibits nuclear factor-kappa B activation and sensitizes prostate cancer cells to cytotoxic agents. *Clin Cancer Res* 8(11):3579-3583.
- Vallee BL. 1959. Biochemistry, physiology and pathology of zinc. *Physiol Rev* 39:443-490.
- Vallee BL, Falchuk KH. 1993. The biochemical basis of zinc physiology. *Physiol Rev* 73(1):79-118.
- Valverde M, Rojas E, Sordo M, et al. 1996. Genotoxic effects of zinc chloride and aluminum chloride in human leukocytes and lymphocytes assessed by the alkaline single cell gel electrophoresis assay. *Environ Mol Mutagen* 27:70.
- Van Campen DR, Scaife PU. 1967. Zinc interference with copper absorption in rats. *J Nutr* 91:473-476.

## 9. REFERENCES

- \*van den Berg C. 1986. The determination of trace metals in sea-water using cathodic stripping voltammetry. *Sci Total Environ* 49:89-99.
- van den Berg CMG. 1991. Monitoring of labile copper and zinc in estuarine waters using a cathodic-stripping chronopotentiometry. *Marine Chemistry* 34(3-4):211-223.
- Vas P. 1991. Trace metal levels in sharks from British and Atlantic waters. *Mar Pollut Bull* 22:67-72.
- Vas P, Steven JD, Bonwick GA, et al. 1990. Cd, Mn, and Zn concentrations in vertebrae of blue shark and shortfin Mako in Australian coastal waters. *Mar Pollut Bull* 13:217-218.
- Vasconcelos MTSD, Taveres HMF. 1998. Atmospheric metal pollution (Cr, Cu, Fe, Mn, Ni, Pb and Zn) in Oporto City derived from results for low-volume aerosol samplers and for the moss *Sphagnum auriculatum* bioindicator. *Sci Total Environ* 212:11-20.
- \*Vasikaran SD, Patel S, O'Gorman P. 1992. Zinc and copper status of lead workers. *Trace Elem Med* 9(2):103-104.
- Vazquez F, Aguilera G, Delgado D, et al. 1990. Trace and heavy metals in the oyster *Crassostrea virginica*, San Andreas Lagoon, Tamaulipas, Mexico. *Bull Environ Contam Toxicol* 45:907-914.
- \*Vazquez FG, Aguilera LG, Sharma VK. 1994. Metals in sediments of San Andres Lagoon, Tamaulipas, Mexico. *Bull Environ Contam Toxicol* 52:382-387.
- \*Vazquez FG, Sharma VK, Alexander VH, et al. 1995. Metals in some lagoons of Mexico. *Environ Health Perspect Suppl* 103:33-34.
- Vedagiri U, Ehrenfeld J. 1991. Effects of Sphagnum moss and urban runoff on bioavailability of lead and zinc from acidic wetlands of the New Jersey pinelands. *Environ Pollut* 72(4):317-330.
- \*Veeken A, Hamelers B. 2002. Sources of Cd, Cu, Pb and Zn in biowaste. *Sci Total Environ* 300:87-98.
- Veinott G, Perroncashman S, Anderson MR. 2001. Baseline metal concentrations in coastal Labrador sediments. *Mar Pollut Bull* 42:187-192.
- Velie E, Shaw G, Block G, et al. 1996. Maternal supplement and dietary zinc intake and the occurrence of neural tube defects in California. *Am J Epidemiol* 143:S1.
- \*Venitt S, Levy LS. 1974. Mutagenicity of chromates in bacteria and its relevance to chromate carcinogenesis. *Nature* 250:493-495.
- Versiek J, Cornelis R. 1980. Normal levels of trace elements in human blood plasma or serum. *Anal Chem Acta* 116:217-254.
- Veysseyre A, Moutard K, Ferrari C, et al. 2001. Heavy metals in fresh snow collected at different altitudes in the Chamonix and Maurienne Valleys, French Alps: Initial results. *Atmos Environ* 35:415-425.
- \*Vieira I, Sonnier M, Cresteil T. 1996. Developmental expression of *CYP2E1* in the human liver: Hypermethylation control of gene expression during the neonatal period. *Eur J Biochem* 238:476-483.

## 9. REFERENCES

- \*Vilkina GA, Pomerantseva MD, Romaiia LK. 1978. [Lack of mutagenic activity of cadmium and zinc salts in somatic and germ mouse cells.] *Genetika (Moscow)* 14:2212-2214. (Russian)
- \*Villaescusa-Celaya JA, Gutierrez-Galindo EA, Flores-Munoz G. 2000. Heavy metals in the fine fraction of coastal sediments from Baja California (Mexico) and California (USA). *Environ Pollut* 108:453-462.
- \*Villanueva S, Botello AV. 1998. Metal pollution in coastal areas of Mexico. *Rev Environ Contam Toxicol* 157:53-94.
- Villarreal-Trevino CM, Obregon-Morales ME, Lozano-Morales JF, et al. 1986. Bioaccumulation of lead, copper, iron, and zinc by fish in a transect of the Santa Catarina River in Cadereyta Jimenez, Nuevo Leon, Mexico. *Bull Environ Contam Toxicol* 37:395-401.
- \*Vogelmeier C, Konig G, Bencze K, et al. 1987. Pulmonary involvement in zinc fume fever. *Chest* 92:946-949.
- Volmer PA, Roberts J, Meerdink RJ. 2004. Canine zinc toxicosis from ingestion of a decorative bathroom fixture. *J Toxicol Clin Toxicol* 41(5):741.
- \*Voroshilin SI, Plotko EG, Fink TV, et al. 1978. [Cytogenetic effects of inorganic and acetate compounds of tungsten, zinc, cadmium, and cobalt in animal and human somatic cells.] *Tsitol Genet* 12(3):241-243. (Russian)
- \*Waalkes MP, Rehm S, Riggs CW, et al. 1989. Cadmium carcinogenesis in male Wistar [CrI:(WI)BR] rats: Dose-response analysis of effects of zinc on tumor induction in the prostate, in the testes, and at the injection site. *Cancer Res* 49:4282-4288.
- \*Wagner HP, Dalglish K, McGarrity MJ. 1991. Determination of zinc in wort and beer by graphite-furnace atomic absorption spectrometry. *J Am Soc Brew Chem* 49(1):28-30.
- \*Wallenius K, Mathur A, Abdulla M. 1979. Effect of different levels of dietary zinc on development of chemically induced oral cancer in rats. *Int J Oral Surg* 8:56-62.
- Walsh CT, Sandstead HH, Prasad AS, et al. 1994. Zinc: Health effects and research priorities for the 1990s. *Environ Health Perspect* 102(Suppl. 2):5-46.
- \*Walters M, Roe F. 1965. A study of the effects of zinc and tin administered orally to mice over a prolonged period. *Food Cosmet Toxicol* 3:276-321.
- Walther SC, Walther UI, Siagian II, et al. 2003. Effectivity of antioxidative vitamins on zinc-induced toxicity in doxorubicin pretreated lung cells. *Naunyn-Schmiedebergs Arch Pharmacol* 367(Suppl. 1):R157.
- Waner T, Nyska A. 1991. The toxicological significance of decreased activities of blood alanine and aspartate-aminotransferase. *Vet Res Commun* 15(1):73-78.
- Wang Z, Atkinson SA, Bertolo RFP, et al. 1993. Alterations in intestinal uptake and compartmentalization of zinc in response to short-term dexamethasone therapy or excess dietary zinc in piglets. *Pediatric Res* 33(2):118-124.

## 9. REFERENCES

- \*Wapnir RA, Balkman C. 1991. Inhibition of copper absorption by zinc: Effect of histidine. *Biol Trace Elem Res* 29(3):193-202.
- \*Wapnir RA, Stiel L. 1986. Zinc intestinal absorption in rats: Specificity of amino acids as ligands. *J Nutr* 116:2171-2179.
- \*Warwick P, Hall A, Pahley V, et al. 1998. Zinc and cadmium mobility in sand: Effects of pH, speciation, cation exchange capacity (CEC), humic acid and metal ions. *Chemosphere* 36(10):2283-2290.
- \*Wasowicz W, Gromadzinska J, Szram K, et al. 2001. Selenium, zinc, and copper concentrations in the blood and milk of lactating women. *Biol Trace Elem Res* 79(3):221-233.
- \*Wastney ME, Aamodt RL, Rumble WF, et al. 1986. Kinetic analysis of zinc metabolism and its regulation in normal humans. *Am J Physiol* 251:R398-R408.
- Wastney ME, Ahmed S, Henkin RI. 1992. Changes in regulation of human zinc metabolism with age. *Am J Physiol* 263(5):1162-1168.
- Wastney ME, Gokmen IG, Aamodt RL, et al. 1991. Kinetic analysis of zinc metabolism in humans after simultaneous administration of Zn-65 and Zn-70. *Am J Physiol* 260(1):R134-R141.
- Watanabe T, Iwami O, Nakatsuka H, et al. 1991. Correlation of cadmium, copper, manganese, and zinc levels in the urine of people in nonpolluted areas. *J Toxicol Environ Health* 33(3):263-272.
- Watjen W, Haase H, Biagioli M, et al. 2002. Induction of apoptosis in mammalian cells by cadmium and zinc. *Environ Health Perspect Suppl* 110:865-867.
- Watkins KL, Southern LL. 1993. Effect of dietary sodium zeolite-A on zinc utilization by chicks. *Poult Sci* 72(2):296-305.
- \*Watson WS, Mitchell KG, Lyons TDB, et al. 1987. A simple blood sample method for measuring oral zinc absorption in clinical practice. *Clin Phys Physiol Meas* 8:173-178.
- Watson WS, Mitchell KG, Lyon TDB, et al. 1999. A two-compartment model for zinc in humans. *J Trace Elem Med Biol* 13:141-149.
- Wax PM, Becker CE, Curry SC. 2003. Unexpected "gas" casualties in Moscow: A medical toxicology perspective. *Ann Emerg Med* 41:700-705.
- \*Weast RC, ed. 1988. *CRC handbook of chemistry and physics*. 69th ed. Boca Raton, FL: CRC Press, B-143, B-145.
- Weathers KC, Likens GE, Barmann FH. 1988. Cloudwater chemistry from ten sites in North America. *Environ Sci Technol* 22:1018-1026.
- \*Weigand E, Kirchgessner M. 1992. Absorption, endogenous excretion, and balance of zinc in growing rats on diets with various sugars replacing starch. *Biol Trace Elem Res* 34:67-77.
- \*Weigert P. 1991. Metal loads of food of vegetable origin including mushrooms. In: Merian E, ed. *Metals and their compounds in the environment*. Weinheim, Federal Republic of Germany: VCH, 449-468.

## 9. REFERENCES

Weinberger RP, Rostas JAP. 1991. Effect of zinc on calmodulin-stimulated protein kinase-II and protein phosphorylation in rat cerebral cortex. *J Neurochem* 57(2):605-614.

\*Weiss G, ed. 1986. Hazardous chemicals data book. 2nd ed. Park Ridge, NJ: Noyes Data Corp., 1028-1048.

Weiss JH, Hartley DM, Koh JY, et al. 1993. AMPA receptor activation potentiates zinc neurotoxicity. *Neuron* 10(1):43-49.

Wellinghausen N, Rink L. 1998. The significance of zinc for leukocyte biology. *J Leuk Biol* 64:571-577.

Wenk GL, Stemmer KL. 1983. Suboptimal dietary zinc intake increases aluminum accumulation into the rat brain. *Brain Res* 288:393-395.

Wenning RJ, Bonnevie NL, Huntley SL. 1994. Accumulation of metals, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons in sediments from the Lower Passaic River, New Jersey. *Arch Environ Contam Toxicol* 27:64-81.

Wesselkamper SC, Chen LC, Gordon T. 2001. Development of pulmonary tolerance in mice exposed to zinc oxide fumes. *Toxicol Sci* 60:144-151.

\*West JR, Smith HW, Chasis H. 1948. Glomerular filtration rate, effective renal blood flow, and maximal tubular excretory capacity in infancy. *J Pediatr* 32:10-18.

\*Wetter L, Agren MS, Hallmans G, et al. 1986. Effects of zinc oxide in an occlusive, adhesive dressing on granulation tissue formation. *Scand J Plast Reconstr Surg* 20:165-172.

White CW, Avraham KB, Shanley PF, et al. 1991. Transgenic mice with expression of elevated levels of copper-zinc superoxide dismutase in the lungs are resistant to pulmonary oxygen toxicity. *J Clin Invest* 87(6):2162-2168.

White DH, Cromartie E. 1985. Bird use and heavy metal accumulation in waterbirds at dredge disposal impoundments, Corpus Christi, Texas. *Bull Environ Contam Toxicol* 34:295-300.

\*White JR, Driscoll CT. 1987. Zinc cycling in an acidic Adirondack Lake. *Environ Sci Technol* 21:211-216.

Whittaker PH. 1945. Radiological appearances of the chest following partial asphyxiation by a smoke screen. *Br J Radiol* 18:396.

\*WHO. 1996. Zinc. Trace elements in human nutrition and health. World Health Organization, 72-104.

\*WHO. 2001. Zinc. Environmental Health Criteria 221. Geneva, Switzerland: World Health Organization. <http://www.inchem.org/documents/ehc/ehc/ehc221.htm>. June 11, 2003.

\*Widdowson EM, Dickerson JWT. 1964. Chemical composition of the body. In: Comar CL, Bronner F, eds. Mineral metabolism: An advanced treatise. Volume II: The elements Part A. New York: Academic Press.

## 9. REFERENCES

- \*Wilde C. 1975. Aerosol metallic paints: Deliberate inhalation: A study of inhalation and/or ingestion of copper and zinc particles. *Int J Addict* 10:127-134.
- Wilhelm B, Walther UI, Fichtl B. 2001. Effects of zinc chloride on glutathione and glutathione synthesis rates in various lung cell lines. *Arch Toxicol* 75:388-394.
- \*Wilhelm M, Hafner D, Lombeck I, et al. 1991. Monitoring of cadmium, copper, lead and zinc status in young children using toenails: Comparison with scalp hair. *Sci Total Environ* 103:199-207.
- Willis JB. 1962. Determination of lead and other heavy metals in urine by atomic absorption spectroscopy. *Anal Chem* 35:614-617.
- Willoughby RA, MacDonald E, McSherry BJ, et al. 1972. Lead and zinc poisoning and the interaction between Pb and Zn poisoning in the foal. *Can J Comp Med* 36:348-359.
- Wilson BL, Mitchell DL. 1991. Trace metal study of sediment samples near electrical generating facility. *J Environ Sci Health A26*:493-509.
- \*Windholz M. 1983. Merck index. 10th ed. Rahway, NJ: Merck & Co., Inc., 1455-1458.
- \*Windom HL, Byrd JT, Smith RG Jr, et al. 1991. Inadequacy of NASQAN data for assessing metal trends in the nation's rivers. *Environ Sci Technol* 25:1137-1142.
- \*Witschi HR, Last JA. 2001. Toxic responses of the respiratory system. In: Klaassen CD, ed. Casarett & Doull's toxicology: The basic science of poisons. 6 ed. New York, NY: McGraw-Hill, 515-534.
- Wolnik KA, Fricke FL, Capar SG, et al. 1983a. Elements in major raw agricultural crops in the United States: 1. Cadmium and lead in lettuce, peanuts, potatoes, soybeans, sweet corn, and wheat. *J Agric Food Chem* 31:1240-1244.
- Wolnik KA, Fricke FL, Capar SG, et al. 1983b. Elements in major raw agricultural crops in the United States: 2. Other elements in lettuce, peanuts, potatoes, soybeans, sweet corn, and wheat. *J Agric Food Chem* 31:1244-1249.
- Wolnik KA, Fricke FL, Capar SG, et al. 1985. Elements in major raw agricultural crops in the United States: 3. Cadmium, lead, and eleven other elements in carrots, field corn, onions, rice, spinach, and tomatoes. *J Agric Food Chem* 33:807-811.
- \*Wong PK. 1988. Mutagenicity of heavy metals. *Bull Environ Contam Toxicol* 40:597-603.
- Wong WY, Merkus HMWM, Thomas CMG, et al. 2002. Effects of folic acid and zinc sulfate on male factor subfertility: A double-blind, randomized, placebo-controlled trial. *Fertil Steril* 77:491-498.
- \*Woo W, Gibbs DL, Hooper PL, et al. 1983. The effect of dietary zinc on high-density lipoprotein synthesis. *Nutr Rep Int* 27:499-502.
- Wood JPM, Osborne NN. 2003. Zinc and energy requirements in induction of oxidative stress to retinal pigmented epithelial cells. *Neurochem Res* 28(10):1525-1530.
- Wormser U, Benzakine S. 1991. Increased levels of hepatic and renal metallothionein in the rat and guinea-pig after percutaneous application of zinc chloride. *Bull Environ Contam Toxicol* 46(2):249-254.

## 9. REFERENCES

- Xu B, Chia S-E, Ong C-N. 1994. Concentrations of cadmium, lead, selenium, and zinc in human blood and seminal plasma. *Biol Trace Elem Res* 40(1):49-57.
- Xu P, Price J, Wise A, et al. 1992. Interaction of inositol phosphates with calcium, zinc and histidine. *J Inorg Biochem* 47(2):119-130.
- \*Yadrick MK, Kenney MA, Winterfelt EA. 1989. Iron, copper, and zinc status: Response to supplementation with zinc or zinc and iron in adult females. *Am J Clin Nutr* 49:145-150.
- Yamaguchi M. 1993. Regulatory effects of zinc and copper on the calcium transport system in rat liver nuclei: Relation to SH-groups in the releasing mechanism. *Biochem Pharmacol* 45(4):943-948.
- \*Yamaguchi M, Takahashi K, Okada S. 1983. Zinc-induced hypocalcemia and bone resorption in rats. *Toxicol Appl Pharmacol* 67:224-228.
- Yamataka A, Pringle KC, Wyeth J. 1998. A case of zinc chloride ingestion. *J Pediatr Surg* 33(4):660-662.
- \*Yang CL, Du XH, Zou WZ, et al. 1991. Protective effect of zinc induced metallothionein synthesis on gentamicin nephrotoxicity in rats. *Ren Fail* 13(4):227-232.
- Yap CK, Ismail A, Tan SG, et al. 2002. Correlations between speciation of Cd, Cu, Pb and Zn in sediment and their concentrations in total soft tissue of green-lipped mussel *Perna viridis* from the west coast of Peninsular Malaysia. *Environ Int* 28:117-126.
- Yasui M, Ota K, Garruto RM. 1991. Aluminum decreases the zinc concentration of soft-tissues and bones of rats fed a low calcium magnesium diet. *Biol Trace Elem Res* 31(3):293-304.
- \*Yatsuyanagi J, Iwai K, Ogiso T. 1987. Suppressive effect of zinc on some functions of neutrophils: Studies with carrageenan-induced inflammation in rats. *Chem Pharm Bull (Tokyo)* 35:699-704.
- \*Yeats PA. 1988. The distribution of trace metals in ocean waters. *Sci Total Environ* 72:131-149.
- Yeung GS, Schauer CS, Zlotkin SH. 2001. Fractional zinc absorption using a single isotope tracer. *Eur J Clin Nutr* 55:1098-1103.
- Yim WW-S. 1976. Heavy metal accumulation in estuarine sediments in a historical mining of Cornwall. *Mar Pollut Bull* 7:147-150.
- Yokoi K, Egger NG, Ramanujam VMS, et al. 2003. Association between plasma zinc concentration and zinc kinetic parameters in premenopausal women. *Am J Physiol Endocrinol Metab* 285:E1010-E1020.
- \*Yokoyama M, Koh J, Choi DW. 1986. Brief exposure to zinc is toxic to cortical neurons. *Neurosci Lett* 71:351-355.
- Yoon J-S, Yoon J-Y, Oh H-M. 2004. Effect of zinc supplementation on iron status in Type II diabetes mellitus patients. *FASEB J* 18(4-5):120.

## 9. REFERENCES

- \*Yoshida M, Fumukmoto M, Kishimoto T, et al. 1993. Effects of zinc, selenium, and calcium on the nephrotoxicity of cadmium in primary cultures of rat renal proximal epithelial cells. *Biol Trace Elem Res* 36(3):219-227.
- Young LB, Harvey HH. 1991. Metal concentrations in chironomids in relation to the geochemical characteristics of surficial sediments. *Arch Environ Contam Toxicol* 21:202-211.
- Yousef YA, Yu LL. 1992. Potential contamination of groundwater from copper, lead, and zinc in wet detention ponds receiving highway runoff. *J Environ Sci Health* 27A(4):1033-1044.
- Yukawa M, Suzuki-Yasumota MS, Amano K, et al. 1980. Distribution of trace elements in the human body determined by neutron activation analysis. *Arch Environ Health* 35:36-44.
- \*Zachwieja Z, Chlopicka J, Schlegel-Zawadzka M, et al. 1995. Evaluation of zinc content in children's hair. *Biol Trace Elem Res* 47:141-145.
- Zadorozhnaja TD, Little RE, Miller RK, et al. 2000. Concentrations of arsenic, cadmium, copper, lead, mercury, and zinc in human placentas from two cities in Ukraine. *J Toxicol Environ Health A* 61:255-263.
- \*Zaporowska H, Wasilewski W. 1992. Combined effect of vanadium and zinc on certain selected hematological indices in rats. *Comp Biochem Physiol* 103C(1):143-147.
- Zarcinas BA, Rogers SL. 2002. Copper, lead and zinc mobility and bioavailability in a river sediment contaminated with paint stripping residue. *Environ Geochem Health* 24:191-203.
- Zavaleta N, Abrams S, Lonnerdal B. 2002. Iron (Fe) and zinc (Zn) absorption in 1-yr-old Peruvian children consuming a diet based on wheat flour fortified with Fe with/without Zn and/or vitamin A. *FASEB J* 16:A749.
- \*Zerahn B, Kofoed-Enevoldsen A, Jensen BV, et al. 1999. Pulmonary damage after modest exposure to zinc chloride smoke. *Resp Med* 93:885-890.
- Zhang H. 2004. In-situ speciation of Ni and Zn in freshwaters: Comparison between DGT measurements and speciation models. *Environ Sci Technol* 38(5):1421-1427.
- Zheng M, Fang M. 2000. Correlations between organic and inorganic species in atmospheric aerosols. *Environ Sci Technol* 34:2721-2726.
- Zhou JR, Fordyce CJ, Raboy V, et al. 1992. Reduction of phytic acid in soybean products improves zinc bioavailability in rats. *J Nutr* 122(12):2466-2473.
- \*Ziegler EE, Edwards BB, Jensen RL, et al. 1978. Absorption and retention of lead by infants. *Pediatr Res* 12:29-34.
- Zirschky J, Crawford D, Norton L, et al. 1989. Metals removal in overland flow. *J Water Pollut Control Fed* 61:470-475.
- Zodl B, Zeiner M, Sargazi M, et al. 2003. Toxic and biochemical effects of zinc in Caco-2 cells. *J Inorg Biochem* 97(4):324-330.

## 9. REFERENCES

\*Zoller WH, Gladney ES, Duce RA. 1974. Atmospheric concentrations and sources of trace metals at the South Pole. *Science* 183:198-200.

Zyleski RA, Siddiqui MS, Mayhew JF, et al. 2004. Zinc pennies in the esophagus. *Pediatrics* 113(1):176-177.