

9. REFERENCES

- *Aaseth J, Alexander J, Norseth T. 1982. Uptake of ⁵¹Cr-chromate by human erythrocytes - A role of glutathione. *Acta Pharmacol Toxicol* 50:310-315.
- Abdel-Wahhab MA, Ahmed HH. 2004. Protective effect of Korean Panax ginseng against chromium VI toxicity and free radicals generation in rats. *J Ginseng Res* 28(1):11-17.
- *Abu-Saba K, Flegal AR. 1997. Temporally variable freshwater sources of dissolved chromium to the San Francisco Bay estuary. *Environ Sci Technol* 31:3455-3460.
- ACGIH. 1998. TLVs and BEIs for chemical substances and physical agents. Cincinnati, OH: American Conference of Governmental Industrial Hygienists, 26, 99.
- *ACGIH. 2007. Chromium. Threshold limit values for chemical substances and physical agents and biological exposure indices. Cincinnati, OH: American Conference of Governmental Industrial Hygienists, 20.
- +*Acharya S, Mehta K, Krishnan S, et al. 2001. A subtoxic interactive toxicity study of ethanol and chromium in male Wistar rats. *Alcohol* 23(2):99-108.
- Acharya UR, Mishra M, Tripathy RR, et al. 2006. Testicular dysfunction and antioxidative defense system of Swiss mice after chromic acid exposure. *Reprod Toxicol* 22:87-91.
- +*Adachi S. 1987. Effect of chromium compounds on the respiratory system: Part 5. Long term inhalation of chromic acid mist in electroplating by C57BL female mice and recapitulation on our experimental studies. *Jpn J Ind Health* 29:17-33.
- +*Adachi S, Yoshimura H, Katayama H, et al. 1986. Effects of chromium compounds on the respiratory system: Part 4. Long term inhalation of chromic acid mist in electroplating to ICR female mice. *Jpn J Ind Health* 28:283-287.
- +*Adachi S, Yoshimura H, Miyayama R, et al. 1981. Effects of chromium compounds on the respiratory system: Part 1. An experimental study of inhalation of chromic acid mist in electroplating. *Jpn J Ind Health* 23:294-299.
- *Adekola FA, Eletta OAA. 2007. A study of heavy metal pollution of Asa River, Ilorin. Nigeria; trace metal modeling and geochemistry. *Environ Monit Assess* 125:157-163.
- *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.

+ Cited in Supplemental Document

* Cited in text

9. REFERENCES

- *Agency for Toxic Substances and Disease Registry. 1989. Decision guide for identifying substance-specific data needs related to toxicological profiles. Atlanta, GA: Agency for Toxic Substances and Disease Registry, Division of Toxicology.
- *Agency for Toxic Substances and Disease Registry. 1990a. Health assessment for Cherokee County-Galena subsite National Priorities List (NPL) site, Galena, Cherokee County, Kansas, Region 7. Atlanta, GA: Agency for Toxic Substances and Disease Registry, CERCLIS No. KSD980741862. PB90112053.
- *Agency for Toxic Substances and Disease Registry. 1990b. Health assessment for Butterworth Landfill, Kent County, Michigan, Region 5. Agency for Toxic Substances and Disease Registry, CERCLIS No. MIDO62222997. Atlanta, GA. PB90106899.
- *Agency for Toxic Substances and Disease Registry. 1990. Biomarkers of organ damage or dysfunction for the renal, hepatobiliary, and immune systems. Subcommittee on Biomarkers of Organ Damage and Dysfunction. Atlanta, GA: Agency for Toxic Substances and Disease Registry.
- Aghdassi E, Salit IE, Fung L, et al. 2006. Is chromium an important element in HIV-positive patients with metabolic abnormalities? An hypothesis generating pilot study. *J Am Coll Health* 25(1):56-63.
- +*Aguilar MV, Martinez-Para C, Gonzalez J. 1997. Effects of arsenic(V)-chromium(III) interaction on plasma glucose and cholesterol levels in growing rats. *Ann Nutr Metab* 41:189-195.
- Ahmad I, Maria VL, Oliveira M, et al. 2006. Oxidative stress and genotoxic effects in gill and kidney of *Anguilla anguilla* L. exposed to chromium with or without pre-exposure to beta-naphthoflavone. *Mutat Res* 608(1):16-28.
- *Aitio A, Jarvisalo J, Kiilunen M, et al. 1984. Urinary excretion of chromium as an indicator of exposure to trivalent chromium sulphate in leather tanning. *Int Arch Occup Environ Health* 54:241-249.
- Aitio A, Jarvisalo J, Kiilunen M, et al. 1988. Chromium. In: Clarkson TW, Friberg L, Norberg CF, et al., eds. *Biological monitoring of toxic metals*. New York, NY: Plenum Press, 369-382.
- *Aiyar J, Berkovits HJ, Floyd RA, et al. 1991. Reaction of chromium(VI) with glutathione or with hydrogen peroxide: Identification of reactive intermediates and their role in chromium(VI)-induced DNA damage. *Environ Health Perspect* 92:53-62.
- *Aiyar J, Borges K, Floyd RA, et al. 1989. Role of chromium(V), glutathione thiyl radical and hydroxyl radical intermediates in chromium(VI)-induced DNA damage. *Toxicol Environ Chem* 22:135-148.
- +Akatsuka K, Fairhall LT. 1934. The toxicology of chromium. *J Ind Hyg* 16:1-24.
- *Albert RE. 1991. Issues in the risk assessment of chromium. *Environ Health Perspect* 92:91-92.
- Alcedo JA, Misra M, Hamilton JW, et al. 1994. The genotoxic carcinogen chromium(VI) alters the metal-inducible expression but not the basal expression of the metallothionein gene in vivo. *Carcinogenesis* 15(5):1089-1092.
- Alexander J, Aaseth J, Norseth T. 1982. Uptake of chromium by rat liver mitochondria. *Toxicology* 24:115-122.

9. REFERENCES

- +*Alderson M, Rattan N, Bidstrup L. 1981. Health of workmen in the chromate-producing industry in Britain. *Br J Ind Med* 38:117-124.
- Aldrich MV, Gardea-Torresdey JL, Peralta-Videa JR, et al. 2003. Uptake and reduction of Cr(VI) to Cr(III) by mesquite (*Prosopis* spp.): Chromate-plant interaction and hydroponics and solid media studied using XAS. *Environ Sci Technol* 37:1859-1864.
- +*Al-Hamood MH, Elbetieha A, Bataineh H. 1998. Sexual maturation and fertility of male and female mice exposed prenatally and postnatally to trivalent and hexavalent chromium compounds. *Reprod Fertil Dev* 10:179-183.
- Ali I, Aboul-Enein HY. 2002. Speciation of arsenic and chromium metal ions by reversed phase high performance liquid chromatography. *Chemosphere* 48(3):275-278.
- *Alimonti A, Petrucci F, Krachler M, et al. 2000. Reference values for chromium, nickel and vanadium in urine of youngsters from the urban area of Rome. *J Environ Monit* 2(4):351-354.
- Allen MJ, Myer BJ, Millett PJ, et al. 1997. The effects of particulate cobalt, chromium and cobalt-chromium alloy on human osteoblast-like cells in vitro. *J Bone Jt Surg Am* 79-B(3):475-482.
- Al-Sabti K, Franko M, Andrijanič S, et al. 1994. Chromium-induced micronuclei in fish. *J Appl Toxicol* 14(5):333-336.
- *Al-Saleh I, Al-Doush I. 1998. Survey of trace elements in household and bottled drinking water samples collected in Riyadh, Saudi Arabia. *Sci Total Environ* 216:181-192.
- *Althuis MD, Jordan NE, Ludington EA, et al. 2002. Glucose and insulin responses to dietary chromium supplements: A meta-analysis. *Am J Clin Nutr* 76:148-155.
- *Altman PK, Dittmer DS. 1974. *Biological handbooks: Biology data book, Vol. III, 2nd ed.* Bethesda, MD: Federation of American Societies for Experimental Biology, 1987-2008, 2041.
- +*American Chrome and Chemicals. 1989. Chromic acid. Material safety data sheets. Corpus Christi, TX: American Chrome and Chemicals, Inc.
- *Amrani S, Rizki M, Creus A, et al. 1999. Genotoxic activity of different chromium compounds in larval cells of *Drosophila melanogaster*, as measured in the wing spot test. *Environ Mol Mutagen* 34:47-51.
- Amstad P, Hussain SP, Cerutti P. 1994. Ultraviolet B light-induced mutagenesis of p53 hotspot codons 248 and 249 in human skin fibroblasts. *Mol Carcinog* 10:181-188.
- *Anand SS. 2005. Protective effects of vitamin B6 in chromium-induced oxidative stress in liver. *J Appl Toxicol* 25:440-443.
- Anderlini VC. 1992. The effect of sewage on trace metal concentrations and scope for growth in *Mytilus edulis aoteanus* and *Perna canaliculus* from Wellington Harbour, New Zealand. *Sci Total Environ* 125:263-288.

9. REFERENCES

- *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. Aberdeen Proving Ground, MD. U.S. Army Chemical Research Development and Engineering Center.
- *Andersen ME, Clewell HJ, Gargas ML, et al. 1987. Physiologically based pharmacokinetics and the risk assessment process for methylene chloride. *Toxicol Appl Pharmacol* 87:185-205.
- Anderson LM, Sipowicz MA, Yu W, et al. 1999. Chromium(III) as a male pre-conception carcinogen in mice. In: Sarkar B, ed. Metals and genetics. Plenum Press, 171-182.
- *Anderson RA. 1981. Nutritional role of chromium. *Sci Total Environ* 17:13-29.
- *Anderson RA. 1986. Chromium metabolism and its role in disease processes in man. *Clin Physiol Biochem* 4:31-41.
- *Anderson RA. 1987. Chromium. In: Mertz W ed. Trace elements in human and animal nutrition. 5th ed. Vol. 1. San Diego, CA: Academic Press, Inc., 225-244.
- *Anderson RA. 1998a. Chromium, glucose intolerance and diabetes. *J Am Coll Nutr* 17(6):548-555.
- *Anderson RA. 1998b. Effects of chromium on body composition and weight loss. *Nutr Rev* 56(9):266-270.
- *Anderson RA. 2003. Chromium and insulin resistance. *Nutr Res Rev* 16(2):267-275.
- +*Anderson RA, Bryden NA, Polansky MM. 1997b. Lack of toxicity of chromium chloride and chromium picolinate in rats. *J Am Coll Nutr* 16(3):273-279.
- Anderson RA, Bryden NA, Evock-Clover CM, et al. 1997a. Beneficial effects of chromium on glucose and lipid variables in control and somatotropin-treated pigs are associated with increased tissue chromium and altered tissue copper, iron, and zinc. *J Anim Sci* 75:657-661.
- +*Anderson RA, Bryden NA, Patterson KY, et al. 1993. Breast milk chromium and its association with chromium intake, chromium excretion, and serum chromium. *Clin Nutr* 57:519-523.
- *Anderson RA, Bryden NA, Polansky MM, et al. 1996. Dietary chromium effects on tissue chromium concentrations and chromium absorption in rats. *J Trace Elem Exp Med* 9:11-25.
- *Anderson RA, Cheng N, Bryden NA, et al. 1997c. Elevated intakes of supplemental chromium improve glucose and insulin variables in individuals with type 2 diabetes. *Diabetes* 46:1786-1791.
- +*Anderson RA, Polansky MM, Bryden NA, et al. 1983. Effects of chromium supplementation on urinary Cr excretion of human subjects and correlation of Cr excretion with selected clinical parameters. *J Nutr* 113:276-281.
- Andrew AS, Warren AJ, Barchowsky A, et al. 2003. Genomic and proteomic profiling of responses to toxic metals in human lung cells. *Environ Health Perspect* 111(6):825-838.
- Angerer J, Amin W, Heinrich-Ramm R, et al. 1987. Occupational chronic exposure to metals: I. Chromium exposure of stainless steel welders biological monitoring. *Int Arch Occup Environ Health* 59:503-512.

9. REFERENCES

- Anguilar MV, Mateos CJ, Para MCM. 2002. Determination of chromium in cerebrospinal fluid using electrothermal atomisation atomic absorption spectrometry. *J Trace Elem Med Biol* 16(4):221-225.
- Anjum F, Shakoori AR. 1997. Sublethal effects of hexavalent chromium on the body growth rate and liver function enzymes of phenobarbitone-pretreated and promethazine-pretreated rabbits. *J Environ Pathol Toxicol Oncol* 16(1):51-59.
- Anonymous. 2006. Chromium supplementation. *Med Lett Drugs Ther* 48:7-8.
- Anton A, Serrano T, Angulo E, et al. 2000. The use of two species of crayfish as environmental quality sentinels: The relationship between heavy metal content, cell and tissue biomarkers and physico-chemical characteristics of the environment. *Sci Total Environ* 247:239-251.
- Antonini J, Roberts J. 2007. Chromium in stainless steel welding fume suppresses lung defense responses against bacterial infection in rats. *J Immunotoxicol* 4(2):117-127.
- +Anwar RA, Langham RF, Hoppert CA, et al. 1961. Chronic toxicity studies: III. Chronic toxicity of cadmium and chromium in dogs. *Arch Environ Health* 3:456-460.
- Aoyama K, Baohui X. 2007. Contact sensitizer potassium dichromate alters lymphocyte populations in draining lymph nodes and blood in mice. *Toxicol Mech Methods* 17(8):475-481.
- Apostoli P, Maranelli G, Duca PG, et al. 1997. Reference values of urinary chromium in Italy. *Int Arch Occup Environ Health* 70:173-179.
- +Appenroth D, Braunlich H. 1988. Age dependent differences in sodium dichromate nephrotoxicity in rats. *Exp Pathol* 33:179-185.
- *Appenroth D, Karge E, Kiessling G, et al. 2001. LLU-alpha, an endogenous metabolite of gamma-tocopherol, is more effective against metal nephrotoxicity in rats than gamma tocopherol. *Toxicol Lett* 122:255-265.
- Apte AD, Tare V, Bose P. 2006. Extent of oxidation of Cr(III) to Cr(VI) under various conditions pertaining to natural environment. *J Hazard Mater* 128(2-3):164-174.
- Arakawa H, Watanabe N, Tajmir-Riahi HA. 2001. Calf-thymus DNA interaction with Cr(III)-gallate and Cr(III)-ethyle gallate studied by FTIR spectroscopy and capillary electrophoresis. *Bull Chem Soc Jpn* 74:1075-1082.
- Arakawa H, Wu F, Costa M, et al. 2006. Sequence specificity of Cr(III)-DNA adduct formation in the p53 gene: NGG sequences are preferential adduct-forming sites. *Carcinogenesis* 27(3):639-645.
- Armbruster DA, Rudolph FB. 1976. Rat liver pyruvate carboxylase: Inhibition by chromium nucleotide complexes. *J Biol Chem* 251:320-323.
- Armitage P, Doll R. 1954. The age distribution of cancer and a multi-stage theory of carcinogenesis. *Br J Cancer* 8:1-12.
- *Arreola-Mendoza L, Reyes JL, Melendez E, et al. 2006. Apha-tocopherol protects against the renal damage caused by potassium dichromate. *Toxicology* 218:237-246.

9. REFERENCES

- +*Aruldhas MM, Subramanian S, Sekhar P, et al. 2004. Microcanalization in the epididymis to overcome ductal obstruction caused by chronic exposure to chromium -- a study in the mature bonnet monkey (*Macaca radiata* Geoffroy). 128:127-137.
- +*Aruldhas MM, Subramanian S, Sekhar P, et al. 2005. Chronic chromium exposure-induced changes in testicular histoarchitecture are associated with oxidative stress: Study in a non-human primate (*Macaca radiata* Geoffroy). *Hum Reprod* 20(10):2801-2813.
- +*Aruldhas MM, Subramanian S, Sekhar P, et al. 2006. In vivo spermatotoxic effect of chromium as reflected in the epididymal epithelial principal cells, basal cells, and intraepithelial macrophages of a nonhuman primate (*Macaca radiata* Geoffroy). *Fertil Steril* 86(Suppl 3):1097-1105.
- Arunkumar RI, Rajasekaran P, Michael RD. 2000. Differential effect of chromium compounds on the immune response of the African mouth breeder *Oreochromis mossambicus* (Peters). *Fish Shellfish Immunol* 10(8):667-676.
- *Asatiani N, Sapojnikova N, Abuladze M, et al. 2004. Effects of Cr(VI) long-term and low-dose action on mammalian antioxidant enzymes (an in vitro study). *J Inorg Biochem* 98:490-496.
- *Ashley K, Howe AM, Demange M, et al. 2003. Sampling and analysis considerations for the determination of hexavalent chromium in workplace air. *J Environ Monit* 5(5):707-716.
- Asmatullah, Noreen MA. 1999. Effect of oral administration of hexavalent chromium on total body weight, chromium uptake and histological structure of mouse liver. *Punjab Univ J Zool* 14:53-63.
- Asmatullah SNQ, Shakoori AR. 1998. Hexavalent chromium-induced congenital abnormalities in chick embryos. *J Appl Toxicol* 18:167-171.
- Athavale P, Shum KW, Chen Y, et al. 2007. Occupational dermatitis related to chromium and cobalt: Experience of dermatologists (EPIDERM) and occupational physicians (OPRA) in the U.K. over an 11-year period (1993–2004). *Br J Dermatol* 157(3):518-522.
- Atiq ur Rahman M, Sakano T. 2001. Health impact assessment of chrome-based leather tanning: Short report of an ongoing case study of Pakistan. *Promot Educ* 8(1):21-22.
- Atli G, Alptekin O, Tukul S, et al. 2006. Response of catalase activity to Ag⁺, Cd²⁺, Cr⁶⁺, Cu²⁺ and Zn²⁺ in five tissues of freshwater fish *Oreochromis niloticus*. *Comp Biochem Physiol* 143(2):218-224.
- *Avudainayagam S, Megharaj M, Owens G, et al. 2003. Chemistry of chromium in soils with emphasis on tannery waste sites. *Rev Environ Contam Toxicol* 178:53-91.
- +*Axelsson G, Rylander R. 1980. Environmental chromium dust and lung cancer mortality. *Environ Res* 23:469-476.
- +*Axelsson G, Rylander R, Schmidt A. 1980. Mortality and incidence of tumours among ferrochromium workers. *Br J Ind Med* 37:121-127.
- Ay AN, Zumreoglu-Kara B, Oner R, et al. 2003. Effects of neutral, cationic, and anionic chromium ascorbate complexes on isolated human mitochondrial and genomic DNA. *J Biochem Mol Biol* 36(4):403-408.

9. REFERENCES

- *Ayyamperumal T, Jonathan MP, Srinivasalu S, et al. 2006. Assessment of acid leachable trace metals in sediment cores from River Uppanar, Cuddalor, southeast coast of India. *Environ Pollut* 143:34-45.
- Baetjer AM. 1950a. Pulmonary carcinoma in chromate workers: I. A review of the literature and report of cases. *Int Arch Ind Hyg Occup Med* 2(5):487-504.
- +*Baetjer AM. 1950b. Pulmonary carcinoma in chromate workers: II. Incidence and basis of hospital records. *Int Arch Ind Hyg Occup Med* 2(5):505-516.
- +*Baetjer AM, Damron C, Budacz V. 1959a. The distribution and retention of chromium in men and animals. *Arch Ind Health* 20:136-150.
- +*Baetjer AM, Lowney JF, Steffee H, et al. 1959b. Effect of chromium on incidence of lung tumors in mice and rats. *Arch Ind Health* 20:124-135.
- *Bagchi D, Bagchi M, Stohs SJ. 2001. Chromium (VI)-induced oxidative stress, apoptotic cell death and modulation of p53 tumor suppressor gene. *Mol Cell Biochem* 222:149-158.
- *Bagchi D, Balmoori J, Bagchi M, et al. 2002a. Comparative effect of TCDD, endrin, naphthalene and chromium (VI) on oxidative stress and tissue damage in the liver and brain tissues of mice. *Toxicology* 175:73-82.
- Bagchi D, Joshi SS, Bagchi M. 2000. Cadmium-and chromium-induced oxidative stress, DNA damage, and apoptotic cell death in cultured human chronic myelogenous leukemic K562 cells, promyelocytic leukemic HL-60 cells, and normal human peripheral blood mononuclear cells. *J Biochem Mol Toxicol* 14(1):33-41.
- Bagchi D, Stohs SJ, Downs BW, et al. 2002b. Cytotoxicity and oxidative mechanisms of different forms of chromium. *Toxicology* 180:5-22.
- Bagdon RE, Hazen RE. 1991. Skin permeation and cutaneous hypersensitivity as a basis for making risk assessment of chromium as a soil contaminant. *Environ Health Perspect* 92:111-119.
- *Baggett JM. 1986. Chromium and the potentiative interaction with some other nephrotoxins. In: Serrone D, ed. *Proceedings of chromium symposium 1986: An update*. Pittsburgh, PA: Industrial Health Foundation, 59-78.
- Baggett JM, Berndt WO. 1984. Interaction of potassium dichromate with the nephrotoxins, mercuric chloride and citrinin. *Toxicology* 33:157-169.
- Baggett JM, Berndt WO. 1985. The effect of potassium dichromate and mercuric chloride on urinary excretion and organ subcellular distribution of [²⁰³Hg]mercuric chloride in rats. *Toxicol Lett* 29:115-121.
- +Baines AD. 1965. Cell renewal following dichromate induced renal tubular necrosis. *Am J Pathol* 47:851-876.
- Bajza Z, Vrcek IV. 2001. Water quality analysis of mixtures obtained from tannery waste effluents. *Ecotoxicol Environ Saf* 50:15-18.

9. REFERENCES

- Baker TSU, Arlauskas A, Tandon RK, et al. 1986. Toxic and genotoxic action of electric-arc welding fumes on cultures mammalian cells. *J Appl Toxicol* 6:357-362.
- Balamurugan K, Rajaram R, Ramasami T, et al. 2002. Chromium(III)-induced apoptosis of lymphocytes: Death decision by Ros and Src-family tyrosine kinases. *Free Radic Biol Med* 33(12):1622-1640.
- *Balasoiu CF, Zagury GJ, Deschenes L. 2001. Partitioning and speciation of chromium, copper, and arsenic in CCA-contaminated soils: Influence of soil composition. *Sci Total Environ* 280(1-3):239-255.
- Balasubramaniam P, Gawkrödger DJ. 2003. Chromate: Still and important occupational allergen for men in the UK. *Contact Dermatitis* 49(3):162-163.
- Bale JF, Zimmerman B, Dawson JD, et al. 1999. Cytomegalovirus transmission in child care homes. *Arch Pediatr Adolesc Med* 153(1):75-79.
- Banerjee ADK. 2003. Heavy metal levels and solid phase speciation in street dusts of Delhi, India. *Environ Pollut* 123(1):95-105.
- Banks RB, Cooke RT. 1986. Chromate reduction by rabbit liver aldehyde oxidase. *Biochem Biophys Res Commun* 137(1):8-14.
- +*Banner W, Koch M, Capin M, et al. 1986. Experimental chelation therapy in chromium, lead, and boron intoxication with N-acetylcysteine and other compounds. *Toxicol Appl Pharmacol* 83:142-147.
- Baral A, Engelken R, Stephens W, et al. 2006. Evaluation of aquatic toxicities of chromium and chromium-containing effluents in reference to chromium electroplating industries. *Arch Environ Contam Toxicol* 50:496-502.
- *Baranowski J, Norska-Borowka I, Baranowska I. 2002. Determination of heavy metals in the bones and livers of deceased neonatal humans. *Bull Environ Contam Toxicol* 69:1-7.
- +*Baranowska-Dutkiewicz B. 1981. Absorption of hexavalent chromium by skin in man. *Arch Toxicol* 47:47-50.
- *Barceloux DG. 1999. Chromium. *Clin Toxicol* 37(2):173-194.
- Barchowsky A, O'Hara KA. 2003. Metal-induced cell signaling and gene activation in lung diseases. *Free Radic Biol Med* 34(9):1130-1135.
- *Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk assessment. *Regul Toxicol Pharmacol* 8:471-486.
- *Barnhart J. 1997. Chromium chemistry and implications for environmental fate and toxicity. *J Soil Contam* 6(6):561-568.
- *Barrie LA, Hoff RM. 1985. Five years of air chemistry observations in the Canadian Arctic. *Atmos Environ* 19(12):1995-2010.
- *Barrie LA, Lindberg SE, Chan WH, et al. 1987. On the concentration of trace metals in precipitation. *Atmos Environ* 21:1133-1135.

9. REFERENCES

- *Bartlett R. 1991. Chromium cycling in soils and water: Links, gaps, and methods. *Environ Health Perspect* 92:17-24.
- *Bartlett RJ, Kimble JM. 1976. Behavior of chromium in soils: Trivalent forms. *J Environ Qual* 5:379-386.
- Basiak J, Trzeciak A, Maecka-Panas E, et al. 1999. DNA damage and repair in human lymphocytes and gastric mucosa cells exposed to chromium and curcumin. *Teratog Carcinog Mutagen* 19:19-31.
- *Basketter D, Horev L, Slodovnik D, et al. 2001. Investigation of the threshold for allergic reactivity to chromium. *Contact Dermatitis* 44:70-74.
- Basketter DA, Briatico-Vangosa G, Kaestner W, et al. 1993. Nickel, cobalt and chromium in consumer products: A role in allergic contact dermatitis? *Contact Dermatitis* 28:15-25.
- Basu TK, Donaldson D. 2003. Intestinal absorption in health and disease: Micronutrients. *Best Pract Res Clin Gastroenterol* 17(6):957-979.
- +*Bataineh H, Al-Hamood MH, Elbetieha A, et al. 1997. Effect of long-term ingestion of chromium compounds on aggression, sex behavior and fertility in adult male rat. *Drug Chem Toxicol* 20(3):133-149.
- +*Bataineh H, Bataineh Z, Daradka H. 2007. Short-term exposure of female rats to industrial metal salts: Effect on implantation and pregnancy. *Reprod Med Biol* 6(3):179-183.
- *Beaumont JJ, Sedman RM, Reynolds SD, et al. 2008. Cancer mortality in a Chinese population exposed to hexavalent chromium in drinking water. (Comment in: *Epidemiology* 19(1):1-2, *Epidemiology* 19(1):24-26). *Epidemiology* 19(1):12-23.
- Beck JN, Sneddon J. 2000. Metal concentrations in soils and sediments in Southwest Louisiana. *Anal Lett* 33(10):1913-1959.
- +*Becker N. 1999. Cancer mortality among arc welders exposed to fumes containing chromium and nickel: Results of a third follow-up: 1989-1995. *J Occup Environ Med* 41(4):294-303.
- +*Becker N, Claude J, Frenzel-Beyme R. 1985. Cancer risk of arc welders exposed to fumes containing chromium and nickel. *Scand J Work Environ Health* 11:75-82.
- *Bednar CM, Kies C. 1991. Inorganic contaminants in drinking water correlated with disease occurrence in Nebraska. *Water Resour Bull* 27(4):631-635.
- +Behari J, Chandra SV, Tandon SK. 1978. Comparative toxicity of trivalent and hexavalent chromium to rabbits: III. Biochemical and histological changes in testicular tissue. *Acta Biol Med Ger* 37:463-468.
- +*Behari JR, Tandon SK. 1980. Chelation in metal intoxication: VIII. Removal of chromium from organs of potassium chromate administered rats. *Clin Toxicol* 16(1):33-40.
- *Bell RW, Hipfner JC. 1997. Airborne hexavalent chromium in Southwestern Ontario. *J Air Waste Manage Assoc* 47:905-910.

9. REFERENCES

- *Bennett BG. 1986. Exposure assessment for metals involved in carcinogenesis. *IARC Sci Publ* 71:115-128.
- *Bennicelli C, Camoirano A, Petruzzelli S, et al. 1983. High sensitivity of Salmonella TA102 in detecting hexavalent chromium mutagenicity and its reversal by liver and lung preparations. *Mutat Res* 122:1-5.
- *Benova D, Hadjidekova V, Hristova R, et al. 2002. Cytogenetic effects of hexavalent chromium in Bulgarian chromium platers. *Mutat Res* 514:29-38.
- *Bentley SA. 1977. Red cell survival studies reinterpreted. *Clin Haematol* 6(3):601-623
- +Berg NO, Berlin M, Bohgard M, et al. 1987. Bronchocarcinogenic properties of welding and thermal spraying fumes containing chromium in the rat. *Am J Ind Med* 11:39-54.
- *Berger GS. 1994. Epidemiology of endometriosis. In: Berger GS, ed. *Endometriosis: Advanced management and surgical techniques*. New York, NY: Springer-Verlag, 3-7.
- Berner TO, Murphy MM, Slesinski R. 2004. Determining the safety of chromium tripicolinate for addition to foods as a nutrient supplement. *Food Chem Toxicol* 42(6):1029-1042.
- +Berry JP, Hourdry J, Galle P, et al. 1978. Chromium concentration by proximal renal tubule cells: An ultrastructural microanalytical and cytochemical study. *J Histochem Cytochem* 26:651-657.
- Bervoets L, Solis D, Romero AM, et al. 1998. Trace metal levels in chironomid larvae and sediments from a Bolivian river: Impact of mining activities. *Ecotoxicol Environ Saf* 41:275-283.
- *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.
- Beyersmann D. 2001. Chromium(III) and DNA damage. (Comment on: *Environ Health Perspect* 108(5):399-402). *Environ Health Perspect* 109(6):A250.
- Beyersmann D. 2002. Effects of carcinogenic metals on gene expression. *Toxicol Lett* 127:63-68.
- *Beyersmann D, Koster A. 1987. On the role of trivalent chromium in chromium genotoxicity. *Toxicol Environ Chem* 14:11-22.
- Beyersmann D, Koster A, Buttner B. 1985. Model reactions of chromium compounds with mammalian and bacterial cells. In: Merian E, Frei RW, Hardi W, et al., eds. *Carcinogenic and mutagenic metal compounds: Environmental and analytical chemistry and biological effects*. London, UK: Gordon and Breach Science Publishers, 303-310.
- Bhattacharyya P, Chakraborty A, Chakrabarti K, et al. 2005. Chromium uptake by rice and accumulation in soil amended with municipal solid waste compost. *Chemosphere* 60(10):1481-1486.
- Bianchi V, Levis AG. 1985. Mechanisms of chromium genotoxicity. In: Merian E, Frei RW, Hardi W et al., eds. *Carcinogenic and mutagenic metal compounds: Environmental and analytical chemistry and biological effects*. London: Gordon and Breach Science Publishers, 269-294.

9. REFERENCES

- Bianchi V, Levis AG. 1987. Recent advances in chromium genotoxicity. *Toxicol Environ Chem* 15:1-24.
- Bianchi V, Levis AG. 1988. Review of genetic effects and mechanisms of action of chromium compounds. *Sci Total Environ* 71:351-355.
- Bianchi V, Dal Toso R, Debetto P, et al. 1980. Mechanisms of chromium toxicity in mammalian cell cultures. *Toxicology* 17:219-224.
- Bianchi V, Levis AG, Saggiaro D. 1979. Differential cytotoxic activity of potassium dichromate on nucleoside uptake in BHK fibroblasts. *Chem Biol Interact* 24:137-151.
- +Bick RL, Girardi TV, Lack WJ, et al. 1996. Hodgkin's disease in association with hexavalent chromium exposure. *Int J Hematol* 64(3-4):257-262.
- +*Bidstrup P. 1951. Carcinoma of the lung in chromate workers. *Br J Ind Med* 8:302-305.
- +*Bidstrup P, Case R. 1956. Carcinoma of the lung in workmen in the bichromates-producing industry in Great Britain. *Br J Ind Med* 13:260-264.
- Biedermann KA, Landolph JR. 1987. Induction of anchorage independence in human diploid foreskin fibroblasts by carcinogenic metal salts. *Cancer Res* 47:3815-3823.
- Bilos C, Colombo JC, Presa MJR. 1998. Trace metals in suspended particles, sediments, and asiatic clams (*Corbicula fluminea*) of the Rio de la Plata Estuary, Argentina. *Environ Pollut* 99:1-11.
- Black CB, Cowan JA. 1997. Inert chromium and cobalt complexes as probes of magnesium-dependent enzymes. Evaluation of the mechanistic role of the essential metal cofactor in *Escherichia coli* exonuclease III. *Eur J Biochem* 243:684-689.
- *Blade LM, Yencken MS, Wallace ME, et al. 2007. Hexavalent chromium exposures and exposure-control technologies in American enterprise: Results of NIOSH field research study. *J Occup Environ Hyg* 4(8):596-618.
- +Blair J. 1928. Chrome ulcers. Report on twelve cases. *J Am Med Assoc* 90:1927-1928.
- *Blankenship LJ, Carlisle DL, Wise JP, et al. 1997. Induction of apoptotic cell death by particulate lead chromate: Differential effects of vitamins C and E on genotoxicity and survival. *Toxicol Appl Pharmacol* 146:270-280.
- Blankenship LJ, Manning FCR, Orenstein JM, et al. 1994. Apoptosis is the mode of cell death caused by carcinogenic chromium. *Toxicol Appl Pharmacol* 126:75-83.
- *Blasiak J, Kowalik J. 2000. A comparison of the vitro genotoxicity of tri- and hexavalent chromium. *Mutat Res* 469(1):135-145.
- Blasiak J, Trzeciak A, Malecka-Panas E, et al. 1999. DNA damage and repair in human lymphocytes and gastric mucosa cells exposed to chromium and curcumin. *Teratog Carcinog Mutagen* 19:19-31.
- *Bock M, Schmidt A, Bruckner T, et al. 2003. Contact dermatitis and allergy: Occupational skin disease in the construction industry. *Br J Dermatol* 149(6):1165-1171.

9. REFERENCES

- Boiano JM, Wallace Me, Sieber WK, et al. 2000. Comparison of three sampling and analytical methods for the determination of airborne hexavalent chromium. *J Environ Monit* 2(4):329-333.
- Bollweg G, Balaban C, Cox HJ, et al. 1995. Potential efficacy and toxicity of GM1 ganglioside against trimethyltin-induced brain lesions in rats: Comparison with protracted food restriction. *Neurotoxicology* 16(2):239-255.
- Bolt L, Ellwood DC, Hill MJ, et al. 1994. The role of colonic sulphate-reducing bacteria in the pharmacology of heavy metals. *Eur J Cancer Prev* 3:357-359.
- Bonardi M, Groppi F, Mainardi HS. 2002. High specific activity radioactive tracers: A powerful tool for studying very low level and long term exposure to different chemical forms of both essential and toxic elements. *Microchem J* 73:153-166.
- *Bonatti S, Meini M, Abbondandolo A. 1976. Genetic effects of potassium dichromate in *Schizosaccharomyces pombe*. *Mutat Res* 38:147-150.
- *Bonde JPE, Olsen JH, Hansen KS. 1992. Adverse pregnancy outcome and childhood malignancy with reference to paternal welding exposure. *Scand J Work Environ Health* 18:169-177.
- *Borg H. 1987. Trace metals and water chemistry of forest lakes in northern Sweden. 1987. *Water Research* 21(1):65-72.
- Borges KM, Wetterhahn KE. 1989. Chromium cross-links glutathione and cysteine to DNA. *Carcinogenesis* 10:2165-2168.
- +*Borneff I, Engelhardt K, Griem W, et al. 1968. Carcinogenic substances in water and soil. XXII. Mouse drinking study with 3,4-benzopyrene and potassium chromate. *Arch Hyg* 152:45-53.
- +*Boscolo P, Di Gioacchino M, Bavazzano P, et al. 1997. Effects of chromium on lymphocyte subsets and immunoglobulins from normal population and exposed workers. *Life Sci* 60(16):1319-1325.
- Boscolo P, Di Gioacchino M, Conti P, et al. 1998. Expression of lymphocyte subpopulations, cytokine serum levels and blood and urine trace elements in nickel sensitised women. *Life Sci* 63(16):1417-1422.
- Boscolo P, Di Gioacchino M, Sabbioni E, et al. 1999. Expression of lymphocyte subpopulations, cytokine serum levels, and blood and urinary trace elements in asymptomatic atopic men exposed to an urban environment. *Int Arch Occup Environ Health* 72:26-32.
- Boscolo P, Di Gioacchino M, Sabbioni E, et al. 2000. Lymphocyte subpopulations, cytokines and trace elements in asymptomatic atopic women exposed to an urban environment. *Life Sci* 67(10):1119-1126.
- Bose RN, Moghaddas S, Mazzer PA, et al. 1999. Oxidative damage of DNA by chromium(V) complexes: Relative importance of base versus sugar oxidation. *Nucleic Acids Res* 27(10):2219-2226.
- +*Bovet P, Lob M, Grandjean M. 1977. Spirometric alterations in workers in the chromium electroplating industry. *Int Arch Occup Environ Health* 40:25-32.

9. REFERENCES

- Brabander DJ, Keon N, Stanley RHR, et al. 1999. Intra-ring variability of Cr, As, Cd, and Pb in red oak revealed by secondary ion mass spectrometry: Implications for environmental biomonitoring. *Proc Natl Acad Sci USA* 96(25):14635-14640.
- Bradberry SM, Vale JA. 1999. Therapeutic review: Is ascorbic acid of value in chromium poisoning and chromium dermatitis? *Clin Toxicol* 37(2):195-200.
- Bradshaw LM, Fishwick D, Slater T, et al. 1998. Chronic bronchitis, work related respiratory symptoms, and pulmonary function in welders in New Zealand. *Occup Environ Med* 55:150-154.
- +*Bragt PC, van Dura EA. 1983. Toxicokinetics of hexavalent chromium in the rat after intratracheal administration of chromates of different solubilities. *Ann Occup Hyg* 27(3):315-322.
- Branca M, Dessi A, Kozlowski H, et al. 1989. In vitro interaction of mutagenic chromium(VI) with red blood cells. *FEBS Lett* 257:52-54.
- Brandt-Rauf P. 2006. Editorial retraction. Cancer mortality in a Chinese population exposed to hexavalent chromium in water. (Comment on: *J Occup Environ Med* 39(4):315-319). *J Occup Environ Med* 48(7):749.
- Brandt-Rauf PW, Luo J, Cheng T, et al. 2000. Mutant oncoprotein biomarkers of vinyl chloride exposure. Applications to risk assessment. Human monitoring after environmental and occupational exposure to chemical and physical agents. *NATO Adv Stud Inst Ser A Life Sci* 313:243-248.
- +*Braver ER, Infante P, Chu K. 1985. An analysis of lung cancer risk from exposure to hexavalent chromium. *Teratog Carcinog Mutagen* 5:365-378.
- Brendt WO. 1976. Renal chromium accumulation and its relationship to chromium-induced nephrotoxicity. *J Toxicol Environ Health* 1:449-459.
- *Bridgewater LC, Manning FCR, Patierno SR. 1994a. Base-specific arrest of *in vitro* DNA replication by carcinogenic chromium: Relationship to DNA interstrand crosslinking. *Carcinogenesis* 15(11):2421-2427.
- *Bridgewater LC, Manning FCR, Patierno SR. 1998. Arrest of replication by mammalian DNA polymerase α and β caused by chromium-DNA lesions. *Mol Carcinogen* 23:201-206.
- *Bridgewater LC, Manning FCR, Woo ES, et al. 1994b. DNA polymerase arrest by adducted trivalent chromium. *Mol Carcinogen* 9:122-133.
- +*Brieger H. 1920. [The symptoms of acute chromate poisoning.] *Z Exper Path Therap* 21:393-408. (German)
- *Briggs JA, Briggs RC. 1988. Characterization of chromium effects on a rat liver epithelial cell line and their relevance to *in vitro* transformation. *Cancer Res* 48:6484-6490.
- Bright P, Burge PS, O'Hickey SP, et al. 1997. Occupational asthma due to chrome and nickel electroplating. *Thorax* 52:28-32.

9. REFERENCES

- *Broadhurst CL, Schmidt WF, Reeves JB, et al. 1997. Characterization and structure by NMR and FTIR spectroscopy, and molecular modeling of chromium(III) picolinate and nicotinate complexes utilized for nutritional supplementation. *J Inorg Biochem* 66:119-130.
- *Bronzetti GL, Galli A. 1989. Influence of NTA on the chromium genotoxicity. *Toxicol Environ Chem* 23:101-104.
- *Bronzetti G, Galli A, Boccardo P, et al. 1986. Genotoxicity of chromium *in vitro* on yeast: Interaction with DNA. *Toxicol Environ Chem* 13:103-111.
- +*Brune D, Nordberg G, Wester PO. 1980. Distribution of 23 elements in the kidney, liver, and lungs of workers from a smeltery and refinery in north Sweden exposed to a number of elements and of a control group. *Sci Total Environ* 16:13-35.
- *Bryant HE, Ying S, Helleday T. 2006. Homologous recombination is involved in repair of chromium-induced DNA damage in mammalian cells. *Mutat Res* 599:116-123.
- +*Bryson WG, Goodall CM. 1983. Differential toxicity and clearance kinetics of chromium(III) or (VI) in mice. *Carcinogenesis* 4(12):1535-1539.
- *Buckell M, Harvey DG. 1951. An environmental study of the chromate industry. *Br J Ind Med* 8:298-301.
- Buehrlein M, Harreus UA, Gamarra F, et al. 2007. Cumulative genotoxic and apoptotic effects of xenobiotics in a mini organ culture model of human nasal mucosa as detected by the alkaline single cell microgel electrophoresis assay and the annexin V-affinity assay. *Toxicol Lett* 169:152-161.
- Buhl KJ. 1997. Relative sensitivity of three endangered fishes, Colorado squawfish, bonytail, and razorback sucker, to selected metal pollutants. *Ecotoxicol Environ Saf* 37:186-192.
- *Bukowski JA, Goldstein MD, Korn LR, et al. 1991. Biological markers in chromium exposure assessment: Confounding variables. *Arch Environ Health* 46(4):230-236.
- Bulbulian R, Pringle DD, Liddy MS. 1996. Chromium picolinate supplementation in male and female swimmers. *Med Sci Sports Exercise* 28:S11.
- Bundy KJ, Berzins D. 1998. Differential pulse polarographic analysis of lead and chromium content in Louisiana waters. *Environ Geochem Health* 20:45-51.
- +*Bunker VW, Lawson MS, Delves HT, et al. 1984. The uptake and excretion of chromium by the elderly. *Am J Clin Nutr* 39:797-802.
- Burke T, Fagliano J, Goldoft M, et al. 1991. Chromite ore processing residue in Hudson County, New Jersey. *Environ Health Perspect* 92:131-137.
- *Burrows D, ed. 1983. Adverse chromate reactions on the skin. In: Burrows D, ed. *Chromium: Metabolism and toxicity*. Boca Raton, FL: CRC Press, Inc., 137-163.
- Burton JL, Nonnecke BJ, Dubeski PL, et al. 1996. Effects of supplemental chromium on production of cytokines by mitogen-stimulated bovine peripheral blood mononuclear cells. *J Dairy Sci* 79:2237-2246.

9. REFERENCES

- *Byrne CJ, DeLeon IR. 1986. Trace metal residues in biota and sediments from Lake Pontchartrain, Louisiana. *Bull Environ Contam Toxicol* 37:151-158.
- *Caglieri A, Goldoni M, Acampa O, et al. 2006. The effect of inhaled chromium on different exhaled breath condensate biomarkers among chrome-plating workers. *Environ Health Perspect* 114(4):542-546.
- *Calder LM. 1988. Chromium contamination of groundwater. *Adv Env Sci Technol* 20:215-229.
- Calevro F, Campani S, Raghianti M, et al. 1998. Tests of toxicity and teratogenicity in biphasic vertebrates treated with heavy metals (Cr³⁺, Al³⁺, Cd²⁺). *Chemosphere* 37(14-15):3011-3017.
- Campbell WW, Beard JL, Joseph LJ, et al. 1997. Chromium picolinate supplementation and resistive training by older men: Effects on iron-status and hematologic indexes. *Am J Clin Nutr* 66:944-949.
- *Campbell WW, Joseph LJ, Davey SL, et al. 1999. Effects of resistance training and chromium picolinate on body composition and skeletal muscle in older men. *J Appl Physiol* 86(1):29-39.
- *Camyre E, Wise SS, Milligan P, et al. 2007. Ku80 deficiency does not affect particulate chromate-induced chromosome damage and cytotoxicity in Chinese hamster ovary cells. *Toxicol Sci* 97(2):348-354.
- *Capellmann M, Bolt HM. 1992. Chromium (VI) reducing capacity of ascorbic acid and of human plasma in vitro. *Arch Toxicol* 66:45-50.
- *Capellmann M, Mikalsen A, Hindrum M, et al. 1995. Influence of reducing compounds on the formation of DNA-protein cross-links in HL-60 cells induced by hexavalent chromium. *Carcinogenesis* 16(5):1135-1139.
- *CARB. 1990. Procedure for the analysis of hexavalent chromium at ambient atmospheric levels by ion-chromatography. El Monte, CA: California Air Resources Board.
- *Carlisle DL, Pritchard DE, Singh J, et al. 2000. Apoptosis and P53 induction in human lung fibroblasts exposed to chromium (VI): Effect of ascorbate and tocopherol. *Toxicol Sci* 55:60-68.
- *Carlton GN. 2003. Hexavalent chromium exposures during full-aircraft corrosion control. *Am Ind Hyg Assoc J* 64:668-672.
- +Carter WW. 1929. The effect of chromium poisoning on the nose and throat: The report of a case. *Med J Rec* 130:125-127.
- *Cary EE. 1982. Chromium in air, soil and natural waters. In: Lang S, ed. *Topics in environmental health 5: Biological and environmental aspects of chromium*. New York, NY: Elsevier Biomedical Press, 49-64.
- *Casadevall M, da Cruz Fresco P, Kortenkamp A. 1999. Chromium(VI)-mediated DNA damage: Oxidative pathways resulting in the formation of DNA breaks and abasic sites. *Chem Biol Interact* 123(2):117-132.
- *Case CP, Ellis L, Turner JC, et al. 2001. Development of a routine method for the determination of trace metals in whole blood by magnetic sector inductively coupled plasma mass spectrometry with particular relevance to patients with total hip and knee arthroplasty. *Clin Chem* 47(2):275-280.

9. REFERENCES

- +*Casey CE, Hambidge KM. 1984. Chromium in human milk from American mothers. *Br J Nutr* 52:73-77.
- +*Cason JS. 1959. Report on three extensive industrial chemical burns. *Br Med J* 1:827-829.
- Cass GR, McRae GJ. 1986. Emissions and air quality relationships for atmospheric trace metals. In: Nriagu JO, Davidson CI, eds. *Toxic metals in the atmosphere*. New York, NY: John Wiley and Sons, Inc., 145-171.
- Casto BC, Meyers J, DiPaolo JA. 1979. Enhancement of viral transformation for evaluation of the carcinogenic or mutagenic potential of inorganic metal salts. *Cancer Res* 39:193-198.
- Catsimpoolas N, Griffith AL, Skrabut EM, et al. 1976. Differential Cr uptake of human peripheral lymphocytes separated by density gradient electrophoresis. *Cell Immunol* 25:317-321.
- +*Cavalleri A, Minoia C. 1985. Distribution in serum and erythrocytes and urinary elimination in workers exposed to chromium(VI) and chromium(III). *G Ital Med Lav* 7:35-38.
- +*Cavalleri A, Minoia C, Richelmi P, et al. 1985. Determination of total and hexavalent chromium in bile after intravenous administration of potassium dichromate in rats. *Environ Res* 37:490-496.
- *CDPH. 2007. Chromium-6 in drinking water: Sampling results. California Department of Public Health. <http://ww2.cdph.ca.gov/certlic/drinkingwater/pages/chromium6sampling.aspx>. August 21, 2008.
- Cefalu WT, Hu FB. 2004. Role of chromium in human health and diabetes. *Diabetes Care* 27(11):2741-2751.
- *Cemeli E, Carder J, Anderson D, et al. 2003. Antigenotoxic properties of selenium compounds on potassium dichromate and hydrogen peroxide. *Teratog Carcinog Mutagen* 23(Suppl. 2):53-67.
- Cerulli J, Grabe DW, Gauthier I, et al. 1998. Chromium picolinate toxicity. *Ann Pharmacother* 32:428-431.
- Cervantes M, Glassman AB. 1996. Breast cancer cytogenetics: A review and proposal for clinical application. *Ann Clin Lab Sci* 26(3):208-214.
- Chadwick JK, Wilson HK, White MA. 1997. An investigation of occupational metal exposure in thermal spraying processes. *Sci Total Environ* 199:115-124.
- *Chakov NE, Collins RA, Vincent JB. 1999. A re-investigation the electron spectra of chromium(III) picolinate complexes and high yield synthesis and characterization of $\text{Cr}_2(\mu\text{-OH})_2(\text{pic})_4\cdot 5\text{H}_2\text{O}$ (Hpic=picolinate acid). *Polyhedron* 18:2891-2897.
- Chandra AK, Chatterjee A, Ghosh R, et al. 2007a. Effect of curcumin on chromium-induced oxidative damage in male reproductive system. *Environ Toxicol Pharmacol* 24(2):160-166.
- Chandra AK, Chatterjee A, Ghosh R, et al. 2007b. Chromium induced testicular impairment in relation to adrenocortical activities in adult albino rats. *Reprod Toxicol* 24:388-396.

9. REFERENCES

- *Chang F, Wang S, Huang Y, et al. 2006. Biomonitoring of chromium for residents of areas with a high density of electroplating factories. *J Expo Sci Environ Epidemiol* 16(2):138-146.
- Chang GX, Mallard BA, Mowat DN, et al. 1996. Effect of supplemental chromium on antibody responses of newly arrived feeder calves to vaccines and ovalbumin. *Can J Vet Res* 60:140-144.
- Chaudhary S, Van Horn JD. 2006. Biphasic kinetics in the reaction between amino acids or glutathione and the chromium acetate cluster, $[\text{Cr}_3(\text{OAc})_6]^+$. *Mutat Res* 610:56-65.
- *Chen CJ, Shih TS, Chang HY, et al. 2008. The total body burden of chromium associated with skin disease and smoking among cement workers. *Sci Total Environ* 391:76-81.
- *Chen F, Shi X. 2002. Intracellular signal transduction of cells in response to carcinogenic metals. *Crit Rev Oncol Hematol* 42(1):105-121.
- Chen F, Ding M, Lu Y, et al. 2000. Participation of MAP kinase p38 and I κ B kinase in chromium(VI)-induced NF- κ B and AP-1 activation. *J Environ Pathol Toxicol Oncol* 19(3):231-238.
- *Chen F, Ye J, Zhang X, et al. 1997. One-electron reduction of chromium(VI) by α -lipoic acid and related hydroxyl radical generation, dG hydroxylation and nuclear transcription factor- κ B activation. *Arch Biochem Biophys* 338(2):165-172.
- Chen J, Wey M, Yan M. 1999. The effects of chloride additives on adsorption of heavy metals during incineration. *J Air Waste Manage Assoc* 49(9):1116-1120.
- Chen JC, Wey MY, Chiang BC, et al. 1998. The simulation of hexavalent chromium formation under various incineration conditions. *Chemosphere* 36(7):1553-1564.
- *Chen JM, Hao OJ. 1998. Microbial chromium (VI) reduction. *Crit Rev Environ Sci* 28(3):219-251.
- +*Chen NSC, Tsai A, Dyer I. 1973. Effect of chelating agents on chromium absorption in rats. *J Nutr* 103:1182-1186.
- Chen W, Zhong G, Zhou Z, et al. 2005. Automation of liquid-liquid extraction-spectrophotometry using prolonged pseudo-liquid drops and handheld CCD for speciation of Cr(VI) and Cr(III) in water samples. *Anal Sci* 21(10):1189-1193.
- Cheng L, Liu S, Dixon K. 1998. Analysis of repair and mutagenesis of chromium-induced DNA damage in yeast, mammalian cells, and transgenic mice. *Environ Health Perspect Suppl* 106(Suppl. 4):1027-1032.
- Cheng L, Sonntag DM, deBoer J, et al. 2000. Chromium(VI)-induced mutagenesis in the lungs of the big blue transgenic mice. *J Environ Pathol Toxicol Oncol* 19(3):239-249.
- Cheng RYS, Alvord WG, Powell D, et al. 2002. Microarray analysis of altered gene expression in the TM4 Sertoli-like cell line exposed to chromium(III) chloride. *Reprod Toxicol* 16:223-236.
- Cheng TYS, Hockman T, Crawford E, et al. 2004. Epigenetic and gene expression changes related to transgenerational carcinogenesis. *Mol Carcinog* 40:1-11.

9. REFERENCES

- *Chiba M, Sera K, Hashizume M, et al. 2004. Element concentrations in hair of children living in environmentally degraded districts of the East Aral Sea region. *J Radioanal Nucl Chem* 259(1):149-152.
- *Chillrud SN, Epstein D, Ross JM, et al. 2004. Elevated airborne exposures of teenagers to manganese, chromium, and iron from steel dust and New York City's subways. *Environ Sci Technol* 38(3):732-737.
- Chirenje T, Ma LQ, Clark C, et al. 2003. Cu, Cr and As distribution in soils adjacent to pressure-treated decks, fences and poles. *Environ Pollut* 124(3):407-417.
- Chiu A, Chiu N, Shi X, et al. 1998. Activation of a procarcinogen by reduction: Cr⁶⁺ - Cr⁵⁺ - Cr⁴⁺ - Cr³⁺. A case study by electron spin resonance (ESR/PMR). *J Environ Sci Health C Environ Carcinog Ecotoxicol Rev* C16(2):135-148.
- Chiu A, Katz AJ, Beaubier J, et al. 2004. Genetic and cellular mechanisms in chromium and nickel carcinogenesis considering epidemiologic findings. *Mol Cell Biochem* 255(1-2):181-194.
- Choi YW, Moon SH. 2001. A study on hexachromic ion selective electrode based on supported liquid membranes. *Environ Monit Assess* 70:167-180.
- Choi YW, Moon SH. 2004. Determination of Cr(VI) using an ion selective electrode with SLMs containing Aliquat336. *Environ Monit Assess* 92:163-178.
- Chorvatovičová D, Ginter E. 1989. Effect of Cr(VI) and vitamin C in transplacental micronucleus test in mice. *Biologia* 44:1033-1038.
- *Chorvatovičová D, Kováčiková Z, Šandula J, et al. 1993. Protective effect of sulfoethylglucan against hexavalent chromium. *Mutat Res* 302:207-211.
- Chowdhuri DK, Narayan R, Saxena DK. 2001. Effect of lead and chromium on nucleic acid and protein synthesis during sperm-zona binding in mice. *Toxicol In Vitro* 15:605-613.
- +*Chowdhury AR, Mitra C. 1995. Spermatogenic and steroidogenic impairment after chromium treatment in rats. *Indian J Exp Biol* 33:480-484.
- *Christenson WR, Davis ME, Berndt WO. 1989. The effect of combined treatment with potassium dichromate and maleic acid on renal function in the rat. *Toxicol Lett* 49:21-27.
- +*Cikrt M, Bencko V. 1979. Biliary excretion and distribution of ⁵¹Cr(III) and ⁵¹Cr(VI) in rats. *J Hyg Epidemiol Microbiol Immunol* 23:241-246.
- Cinquetti R, Mazzotti F, Acquati F, et al. 2003. Influence of metal ions on gene expression of BALB 3T3 fibroblasts. *Gene* 318:83-89.
- *Clancy SP, Clarkson PM, DeCheke ME, et al. 1994. Effects of chromium picolinate supplementation on body composition, strength, and urinary chromium loss in football players. *Int J Sports Nutr* 4:142-153.
- +*Clapp TC, Umbreit TH, Meeker RJ, et al. 1991. Bioavailability of lead and chromium from encapsulated pigment materials. *Bull Environ Contam Toxicol* 46:271-275.

9. REFERENCES

- Clarkson PM. 1997. Effects of exercise on chromium levels: Is supplementation required? *Sports Med* 23(6):341-349.
- Clemente GF. 1976. Trace element pathways from environment to man. *J Radioanal Chem* 32:25-41.
- *Clewell HJ III, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1:111-113.
- +*Clochesy JM. 1984. Chromium ingestion: A case report. *J Emerg Nurs* 10:281-282.
- *CMR. 1988a. Chemical profile: Chromic acid. *Chem Mark Rep* October 24, 1988:54.
- *CMR. 1988b. Chemical profile: Sodium bichromate. *Chem Mark Rep* October 17, 1988.
- Cobo JM, Castineira M. 1997. Oxidative stress, mitochondrial respiration, and glycemic control: Clues from chronic supplementation with Cr³⁺ or As³⁺ to male Wistar rats. *Nutrition* 13(11-12):965-970.
- *Cocker J, Jones K, Morton J, et al. 2007. Biomonitoring at the UK Health and Safety Laboratory. *Int J Hyg Environ Health* 210(3-4):383-386.
- Cocker J, Morton J, Warren N, et al. 2006. Biomonitoring for chromium and arsenic in timber treatment plant workers exposed to CCA treated wood preservatives. *Ann Occup Hyg* 50(5):517-525.
- Codd R, Dillon CT, Levina A, et al. 2001. Studies on the genotoxicity of chromium: From the test tube to the cell. *Coord Chem Rev* 216-217:537-582.
- +Cohen HA. 1966. Carrier specificity of tuberculin-type reaction to trivalent chromium. *Arch Dermatol* 93:34-40.
- Cohen M, Prophete C, Sisco M, et al. 2006. Pulmonary immunotoxic potentials of metals are governed by select physiochemical properties: Chromium agents. *J Immunotoxicol* 3(2):69-81.
- Cohen MD, Kargacin B, Klein CB, et al. 1993. Mechanisms of chromium carcinogenicity and toxicity. *Crit Rev Toxicol* 23(3):255-281.
- *Cohen MD, Sisco M, Baker K, et al. 2003. Impact of coexposure to ozone on the carcinogenic potential of inhaled chromium. *J Toxicol Environ Health A* 66(1):39-55.
- +*Cohen MD, Zelikoff JT, Chen LC, et al. 1998. Immunotoxicologic effects of inhaled chromium: Role of particle solubility and co-exposure to ozone. *Toxicol Appl Pharmacol* 152:30-40.
- +*Cohen SR, David DM, Kramkowski RS. 1974. Clinical manifestations of chromic acid toxicity: Nasal lesions in electroplate workers. *Cutis* 13:558-568.
- Cohen T, Que Hee SS, Ambrose RF. 2001. Trace metals in fish and invertebrates of three California coastal wetlands. *Mar Pollut Bull* 42(3):224-232.
- Cole P, Merletti F. 1980. Chemical agents and occupational cancer. *J Environ Pathol Toxicol* 3:399-417.

9. REFERENCES

- *Cole P, Rodu B. 2005. Epidemiologic studies of chrome and cancer mortality: A series of meta-analyses. *Regul Toxicol Pharmacol* 43:225-231.
- +*Coleman RF, Herrington J, Scales JT. 1973. Concentration of wear products in hair, blood, and urine after total hip replacement. *Br Med J* 1:527-529.
- Colsky AS, Peacock JS. 1990. Sodium pyruvate inhibits the spontaneous release of ⁵¹Cr from RBC in chromium release assays. *J Immunol Methods* 129:139-141.
- *Comber S, Gardner M. 2003. Chromium redox speciation in natural waters. *J Environ Monit* 5:410-413.
- +*Coogan T, Motz J, Snyder C, et al. 1991a. Differential DNA-protein crosslinking in lymphocytes and liver following chronic drinking water exposure of rats to potassium chromate. *Toxicol Appl Pharmacol* 109:60-72.
- *Coogan TP, Squibb KS, Motz J, et al. 1991b. Distribution of chromium within cells of the blood. *Toxicol Appl Pharmacol* 108:157-166.
- *Corbett GE, Dodge DG, O'Flaherty EO, et al. 1998. *In vitro* reduction kinetics of hexavalent chromium in human blood. *Environ Res* 78:7-11.
- +*Corbett GE, Finley BL, Paustenbach DJ, et al. 1997. Systemic uptake of chromium in human volunteers following dermal contact with hexavalent chromium (22 mg/L). *J Expo Anal Environ Epidemiol* 7(2):179-189.
- Corradi MG, Gorbi G, Ricci A, et al. 1995. Chromium-induced sexual reproduction gives rise to a Cr-tolerant progeny in *Scenedesmus acutus*. *Ecotoxicol Environ Safety* 32:12-18.
- *Coryell VH, Stearns DM. 2006. Molecular analysis of hprt mutations induced by chromium picolinate in CHO AA8 cells. *Mutat Res* 610:114-123.
- Costa M. 1991. DNA-protein complexes induced by chromate and other carcinogens. *Environ Health Perspect* 92:45-52.
- Costa M. 1997. Toxicity and carcinogenicity of Cr(VI) in animal models and humans. *Crit Rev Toxicol* 27(5):431-442.
- Costa M. 1998. Carcinogenic metals. *Science Progress* 81(4):329-339.
- *Costa M. 2003. Potential hazards of hexavalent chromate in our drinking water. *Toxicol Appl Pharmacol* 188(1):1-5.
- *Costa M, Klein C. 2006a. Response to comments by Post and Stern on article "Toxicity and carcinogenicity of chromium compounds in humans". (Comment on: 36(2):155-163). *Crit Rev Toxicol* 36(9):779.
- Costa M, Klein CB. 2006b. Toxicity and carcinogenicity of chromium compounds in humans. (Comment in: *Crit Rev Toxicol* 36(9):777-778, discussion 779). *Crit Rev Toxicol* 36(2):155-163.

9. REFERENCES

- *Costa M, Zhitkovich A, Gargas M, et al. 1996. Interlaboratory validation of a new assay for DNA-protein crosslinks. *Mutat Res* 369:13-21.
- *Costa M, Zhitkovich A, Harris M, et al. 1997. DNA-protein cross-links produced by various chemicals, in cultured human lymphoma cells. *J Toxicol Environ Health* 50(5):433-449.
- Cox XB, Linton RW, Butler FE. 1985. Determination of chromium speciation in environmental particles. Multitechnique study of ferrochrome smelter dust. *Environ Sci Technol* 19:345-352.
- Criqui M, Austin M, Barrett-Connor E. 1979. The effect of non-response on risk ratios in a cardiovascular disease study. *J Chron Dis* 32:633-638.
- Cross HJ, Faux SP, Levy LS. 1997. Establishing an occupational exposure limit for hexavalent chromium in the European Union. *Regul Toxicol Pharmacol* 26:S72-S76.
- +*Crump C, Crump K, Hack E, et al. 2003. Dose-response and risk-assessment of airborne hexavalent chromium and lung cancer mortality. *Risk Anal* 23(6):1147-1163.
- *Cruz MJ, Costa R, Marquilles E, et al. 2006. Occupational asthma caused by chromium and nickel. *Arch Bronconeumol* 42(6):302-306.
- *Cupo DY, Wetterhahn KE. 1985. Binding of chromium to chromatin and DNA from liver and kidney of rats treated with sodium dichromate and chromium(III) chloride *in vivo*. *Cancer Res* 45:1146-1151.
- Curtis A, Morton J, Balafa C, et al. 2007. The effects of nickel and chromium on human keratinocytes: Differences in viability, cell associated metal and IL-1alpha release. *Toxicol In Vitro* 21:809-819.
- +*Da Costa JC, Jones FX, Rosenberger RC. 1916. Tanner's ulcer: Chrome sores - chrome holes - acid bites. *Ann Surg* 63:155-166.
- +*Dalager NA, Mason TJ, Fraumeni JF, et al. 1980. Cancer mortality among workers exposed to zinc chromate paints. *J Occup Med* 22(1):25-29.
- Danadevi K, Rozati R, Banu BS, et al. 2004. Genotoxic evaluation of welders occupationally exposed to chromium and nickel using the Comet and micronucleus assays. *Mutagenesis* 19(1):35-41.
- Danadevi K, Rozati R, Reddy PP, et al. 2003. Semen quality of Indian welders occupationally exposed to nickel and chromium. *Reprod Toxicol* 17:451-456.
- Danford DE, Anderson RA. 1985. Beltsville Human Nutrition Research Center, U.S. Department of Agriculture. *Nutr Support Serv* 5:64.
- +*Danielsson BRG, Hassoun E, Dencker L. 1982. Embryotoxicity of chromium: Distribution in pregnant mice and effects on embryonic cells in vitro. *Arch Toxicol* 51:233-245.
- Danielsson DA, Pehrson B. 1998. Effects of chromium supplementation on the growth and carcass quality of bulls fed a grain-based diet during the finishing period. *Vet Med (Prague)* 45:219-224.
- Darbre PD. 2006. Metallogestrogens: An emerging class of inorganic xenoestrogens with potential to add to the oestrogenic burden of the human breast. *J Appl Toxicol* 26:191-197.

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.
- das Neves RP, Santos TM, Pereira MD, et al. 2002. Comparative histological studies on liver of mice exposed to Cr(VI) and Cr(V) compounds. *Hum Exp Toxicol* 21:365-369.
- *Davids HW, Lieber M. 1951. Underground waste contamination by chromium wastes. *Water Sewage Works* 98:528-534.
- *Davidson T, Kluz T, Burns F, et al. 2004. Exposure to chromium (VI) in the drinking water increases susceptibility to UV-induced skin tumors in hairless mice. *Toxicol Appl Pharmacol* 196:431-437.
- +*Davies J. 1979. Lung cancer mortality of workers in chromate pigment manufacture: An epidemiological survey. *J Oil Colour Chem Assoc* 62:157-163.
- +*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 J, Easton D, Bidstrup P. 1991. Mortality from respiratory cancer and other causes in United Kingdom chromate production workers. *Br J Ind Med* 48:299-313.
- *Davis CM, Vincent JB. 1997. Chromium oligopeptide activates insulin receptor tyrosine kinase activity. *Biochemistry* 36:4382-4385.
- Davis CM, Sumrall KH, Vincent JB. 1996. A biologically active form of chromium may activate a membrane phosphotyrosine phosphatase (PTP). *Biochemistry* 35:12963-12969.
- Davis JJ, Gulson BL. 2005. Ceiling (attic) dust: A "museum" of contamination and potential hazard. *Environ Res* 99:177-194.
- Debetto P, Luciani S. 1988. Toxic effect of chromium on cellular metabolism. *Sci Total Environ* 71:365-377.
- D'Elia CF, Sanders JG, Capone DG. 1989. Analytical chemistry for environmental sciences: A question of confidence. *Environ Sci Technol* 23(7):768-774.
- *De Flora S. 1978. Metabolic deactivation of mutagens in the Salmonella-microsome test. *Nature* 271:455-456.
- *De Flora S. 1981. Study of 106 organic and inorganic compounds in the Salmonella/microsome test. *Carcinogenesis* 2(4):283-298.
- *De Flora S. 2000. Threshold mechanisms and site specificity in chromium(VI) carcinogenesis. *Carcinogenesis* 21(4):533-541.
- *De Flora S, Wetterhahn KE. 1989. Mechanisms of chromium metabolism and genotoxicity. *Life Chemistry Reports* 7:169-244.
- *De Flora S, Badolati GS, Serra D, et al. 1987a. Circadian reduction of chromium in the gastric environment. *Mutat Res* 192:169-174.

9. REFERENCES

- *De Flora S, Bagnasco M, Serra D, et al. 1990. Genotoxicity of chromium compounds. A review. *Mutat Res* 238:99-172.
- *De Flora S, Bennicelli C, Znacchi P, et al. 1984. Metabolic activation and deactivation of mutagens by preparations of human lung parenchyma and bronchial tree. *Mutat Res* 139:9-14.
- *De Flora S, Camoirana A, Bagnasco M, et al. 1997. Estimates of the chromium(VI) reducing capacity in human body compartments as a mechanism for attenuating its potential toxicity and carcinogenicity. *Carcinogenesis* 18(3):531-537.
- +*De Flora S, Iltcheva M, Balansky RM. 2006. Oral chromium(VI) does not affect the frequency of micronuclei in hematopoietic cells of adult mice and of transplacentally exposed fetuses. *Mutat Res* 610:38-47.
- *De Flora S, Petruzelli S, Camoirano A, et al. 1987b. Pulmonary metabolism of mutagens and its relationship with lung cancer and smoking habits. *Cancer Res* 47:4740-4745.
- De Flora S, Serra D, Basso C, et al. 1989. Mechanistic aspects of chromium carcinogenicity: Biological monitoring of exposure and the response at the subcellular level to toxic substances. *Arch Toxicol Suppl* 13:28-39.
- De Miguel E, Iribarren I, Chacon E, et al. 2007. Risk-based evaluation of the exposure of children to trace elements in playgrounds in Madrid (Spain). *Chemosphere* 66:505-513.
- *Deng C, Lee HH, Xian H, et al. 1988. Chromosomal aberrations and sister chromatid exchanges of peripheral blood lymphocytes in Chinese electroplating workers: Effect of nickel and chromium. *J Trace Elem Exper Med* 1:57-62.
- *Depault F, Cojocar M, Fortin F, et al. 2006. Genotoxic effects of chromium(VI) and cadmium(II) in human blood lymphocytes using the electron microscopy in situ end-labeling (EM-ISEL) assay. *Toxicol In Vitro* 20:513-518.
- De Raeve H, Vandecasteele C, Demedts M, et al. 1998. Dermal and respiratory sensitization to chromate in a cement floorer. *Am J Ind Med* 34:169-176.
- +*Derelanko NJ, Rinehart WE, Hilaski RJ, et al. 1999. Thirteen-week subchronic rat inhalation toxicity study with a recovery phase of trivalent chromium compounds, chronic oxide, and basic chromium sulfate. *Toxicol Sci* 52(2):278-288.
- Desoize B. 2002. Cancer and metals and metal compounds: Part I-carcinogenesis. *Crit Rev Oncol Hematol* 42(1):1-3.
- *Dever M, Hausler DW, Smith JE. 1989. Comparison between radioactive isotope chromium-51 and stable isotope chromium-50 labels for the determination of red blood cell survival. *J Anal Atom Spectrom* 4:361-363.
- *Devi KD, Rozati R, Saleha Banu B, et al. 2001. In vivo genotoxic effect of potassium dichromate in mice leukocytes using comet assay. *Food Chem Toxicol* 39(8):859-865.

9. REFERENCES

Devi KP, Sairam M, Sreepriya M, et al. 2004. Immunomodulatory effects of *Premna tomentosa* (L. verbenaceae) extract in J 779 macrophage cell cultures under chromate (VI)-induced immunosuppression. *J Altern Complement Med* 10(3):535-539.

+*Diaz-Mayans J, Laborda R, Nunez A. 1986. Hexavalent chromium effects on motor activity and some metabolic aspects of Wistar albino rats. *Comp Biochem Physiol* 83C(1):191-195.

Dillon CT, Lay PA, Bonin AM, et al. 1993. *In vitro* DNA damage and mutations induced by a macrocyclic tetraamide chromium(V) complex: Implications for the role of Cr(V) peptide complexes in chromium-induced cancers. *Carcinogenesis* 14(9):1875-1880.

*Ding M, Shi X. 2002. Molecular mechanisms of Cr(VI)-induced carcinogenesis. *Mol Cell Biochem* 234/235:293-300.

Ding M, Shi X, Castranova V, et al. 2000. Predisposing factors in occupational lung cancer: Inorganic minerals and chromium. *J Environ Pathol Toxicol Oncol* 19(1&2):129-138.

Ding WJ, Chai Z, Duan P, et al. 1998. Serum and urine chromium concentrations in elderly diabetics. *Biol Trace Elem Res* 63:231-237.

*DiPaolo JA, Casto BC. 1979. Quantitative studies of *in vitro* morphological transformation of Syrian hamster cells by inorganic metal salts. *Cancer Res* 39:1008-1013.

*DiSilvestro RA, Dy E. 2007. Comparison of acute absorption of commercially available chromium supplements. *J Trace Elem Med Biol* 21(2):120-124.

Dixon JR, Lowe DB, Richards DE, et al. 1970. The role of trace metals in chemical carcinogenesis: Asbestos cancers. *Cancer Res* 30:1068-1074.

*DOC. 1976c. Standard reference material 1569. Brewers yeast. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1569.pdf.
April 23, 2008.

*DOC. 1976b. Standard reference material 1570. Trace elements in spinach. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1570.pdf.
April 23, 2008.

*DOC. 1976a. Standard reference material 1573. Tomato leaves. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1573.pdf.
April 23, 2008.

*DOC. 1977a. Standard reference material 1571. Orchard leaves. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1571.pdf.
April 23, 2008.

9. REFERENCES

- *DOC. 1977b. Standard reference material 1577. Bovine liver. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1577.pdf.
April 23, 2008.
- *DOC. 1982. Standard reference material 1577a. Bovine liver. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1577a.pdf.
May 22, 2008.
- *DOC. 1983. Standard reference material 1566. Oyster tissue. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1566.pdf.
April 23, 2008.
- *DOC. 1985. Standard reference material 909. Human serum. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/909.pdf.
April 23, 2008.
- *DOC. 1989. Standard reference material 1566a. Oyster tissue. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1566a.pdf.
April 23, 2008.
- *DOC. 1993a. Standard reference material 1575. Pine needles. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1575.pdf.
April 23, 2008.
- *DOC. 1993b. Standard reference material 909a. Human serum. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/909a.pdf.
April 23, 2008.
- *DOC. 1993c. Standard reference material 2670. Toxic metals in freeze-dried urine. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/2670.pdf.
May 22, 2008.
- *DOC. 1996. Standard reference material 1570a. Trace elements in spinach leaves. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/1570a%20July%2015,%201996.pdf. April 23, 2008.
- *DOC. 2003. Standard reference material 909b. Human serum. National Bureau of Standards Certificate of Analysis. U.S. Department of Commerce.
http://ts.nist.gov/MeasurementServices/ReferenceMaterials/ARCHIVED_CERTIFICATES/909b.Nov19.2003.pdf. April 23, 2008.

9. REFERENCES

- +DOD. 1947. The oral toxicity of hexavalent chromium. Washington, DC: U.S. Department of Defense. AD722266.
- *Doisy RJ, Streeten DPH, Souma ML, et al. 1971. Metabolism of 51chromium in human subjects-normal, elderly, and diabetic subjects. In: Mertz W, Cornatzer WE, eds. Newer trace elements in nutrition. New York, NY: Marcel Dekker, Inc., 155-168.
- +*Donaldson DL, Smith CC, Yunice AA. 1984. Renal excretion of chromium-51 chloride in the dog. *Am J Physiol* 246(6):F870-F878.
- +*Donaldson RM, Barreras RF. 1966. Intestinal absorption of trace quantities of chromium. *J Lab Clin Med* 68:484-493.
- *Douglas GR, Bell RDL, Grant CE, et al. 1980. Effect of lead chromate on chromosome aberration, sister-chromatid exchange and DNA damage in mammalian cells in vitro. *Mutat Res* 77:157-163.
- *Dube P. 1988. Determination of chromium in human urine by graphite furnace atomic absorption spectrometry with Zeeman-effect background correction. *Analyst* 113:917-921.
- Dubrovskaya VA, Wetterhahn KE. 1998. Effects of Cr(VI) on the expression of the oxidative stress genes in human lung cells. *Carcinogenesis* 19(8):1401-1407.
- Dudek EJ, Dobson AW, LeDoux SP, et al. 1998. Chromium(VI) induces specific types of mitochondrial DNA damage in human lung A549 cells. *Proc Am Assoc Cancer Res* 39:240.
- Duffus JH. 1996. Epidemiology and the identification of metals as human carcinogens. *Sci Prog* 79(4):311-326.
- Duranceau SJ, Poole J, Foster JV. 1999. Wet-pipe fire sprinklers and water quality: Cross-section control in new wet-pipe fire sprinkler systems should be vigorously pursued, but retrofitting is not recommended. *J Am Water Works Assoc* 91(7):78-90.
- +Dvizhkov PP, Fedorova VI. 1967. [Blastomogenic properties of chromium oxide]. *Vopr Onkol* 13:57-62. (Russian)
- +Eaton D, Stacey N, Wong K, et al. 1980. Dose-response effects of various metal ions on the rat liver metallothionein, glutathione, heme oxygenase, and cytochrome P-450. *Toxicol Appl Pharmacol* 55:393-402.
- *Eckel WP, Jacob TA. 1988. Ambient levels of 24 dissolved metals in U.S. surface and ground waters. *Prepr Pap Natl Meet Am Chem Soc Div Environ Chem* 28:371-372.
- *Edel J, Sabbioni E. 1985. Pathways of Cr (III) and Cr (VI) in the rat after intratracheal administration. *Hum Toxicol* 4(4):409-416.
- *Edme JL, Shirali P, Mereau M, et al. 1997. Assessment of biological chromium among stainless steel and mild steel workers in relation to welding processes. *Int Arch Occup Environ Health* 70:237-242.
- +*Edmundson WF. 1951. Chrome ulcers of the skin and nasal septum and their relation to patch testing. *J Invest Dermatol* 17:17-19.

9. REFERENCES

- *EEH. 1976. An epidemiological study of lead chromate plants: Final report. Berkeley, CA: Equitable Environmental Health, Inc.
- +*EEH. 1983. Mortality in employees of three plants which produced chromate pigments. Berkeley, CA: Equitable Environmental Health, Inc.
- *Eisenberg M, Topping JJ. 1986. Trace metal residues in finfish from Maryland waters, 1978-1979. *J Environ Sci Health* 21(1):87-102.
- Eizaguirre-Garcia D, Rodriguez-Andres C, Watt GC, et al. 1999. A study of leukaemia in Glasgow in connection with chromium-contaminated land. *J Public Health Med* 21(4):435-438.
- Eizaguirre-Garcia D, Rodriguez-Andres C, Watt GCM. 2000. Congenital anomalies in Glasgow between 1982 and 1989 and chromium waste. *J Public Health Med* 22(1):54-58.
- Elbekai RH, El-Kadi AOS. 2007. Transcriptional activation and posttranscriptional modification of Cyp1a1 by arsenite, cadmium, and chromium. *Toxicol Lett* 172:106-119.
- +*Elbetieha A, Al-Hamood MH. 1997. Long-term exposure of male and female mice to trivalent and hexavalent chromium compounds: Effect on fertility. *Toxicology* 116:39-47.
- *El-Demerdash FM, Yousef MI, Elswad FAM. 2006. Biochemical study on the protective role of folic acid in rabbits treated with chromium (VI). *J Environ Sci Health B* 41(5):731-746.
- *Elias Z, Mur J-M, Pierre F, et al. 1989a. Chromosome aberrations in peripheral blood lymphocytes of welders and characterization of their exposure by biological samples analysis. *J Occup Med* 31(5):477-483.
- *Elias Z, Poirot O, Pezerat H, et al. 1989b. Cytotoxic and neoplastic transforming effects of industrial hexavalent chromium pigments in Syrian hamster embryo cells. *Carcinogenesis* 10(11):2043-2052.
- Elis A, Froom P, Ninio A, et al. 2001. Employee exposure to chromium and plasma lipid oxidation. *Int J Occup Environ Health* 7:206-208.
- Ellenhorn MJ, Schonwald S, Ordog G, et al., eds. 1997. *Ellenhorn's medical toxicology. Diagnosis and treatment of human poisoning*. 2nd ed. Baltimore, MD: Williams & Wilkins, 1098-1100, 162t.
- +*Ellis EN, Brouhard BH, Lynch RE, et al. 1982. Effects of haemodialysis and dimercaprol in acute dichromate poisoning. *J Toxicol Clin Toxicol* 19(3):249-258.
- Elrashidi MA, Baligar VC, Korcak RF, et al. 1999. Ground water quality: Chemical composition of leachate of dairy manure mixed with fluidized bed combustion residue. *J Environ Qual* 28(4):1243-1251.
- +*Elsaieed EM, Nada SA. 2002. Teratogenicity of hexavalent chromium in rats and the beneficial role of ginseng. *Bull Environ Contam Toxicol* 68:361-368.
- El-Tawil OS, Morgan AM. 2000. Teratogenic effects of trivalent and hexavalent chromium in rabbits. *Toxicologist* 54(1):32.
- +*Engebretsen JK. 1952. Some investigations on hypersensitiveness to bichromate in cement workers. *Acta Derm Venereol* 32:462-468.

9. REFERENCES

- +*Engel H, Calnan C. 1963. Chromate dermatitis from paint. *Br J Ind Med* 20:192-198.
- *Engelhardt S, Moser-Veillon PB, Mangels AR, et al. 1990. Appearance of an oral dose of chromium (53Cr) in breast milk? In: Atkinson SA, Hanson LA, Chandra RK, eds. *Breast feeding, nutrition, infection and infant growth in developed and emerging countries*. St. John's, Canada: ARTS Biomedical Publishers and Distributors, 485-487.
- *Enterline PE. 1974. Respiratory cancer among chromate workers. *J Occup Med* 16(8):523-526.
- EPA. 1975. National interim primary drinking water regulations. U.S. Environmental Protection Agency Fed Reg 40:59566-59587.
- EPA. 1978. Reviews of the environmental effects of pollutants: III. Chromium. Cincinnati, OH: Office of Research and Development, U.S. Environmental Protection Agency. EPA600178023.
- *EPA. 1979. Water-related environmental fate of 129 priority pollutants: Vol. I: Introduction and technical background, metals and inorganics, pesticides and PCBs. Washington, DC: U.S. Environmental Protection Agency, 10-1 to 10-10. EPA440579029a.
- *EPA. 1980. Ambient water quality criteria for chromium. Washington, DC: Office of Water Regulations and Standards, Criteria and Standards Division, U.S. Environmental Protection Agency. EPA440580035.
- EPA. 1981. U.S. Environmental Protection Agency. Fed Regist 45:4617-4618 as amended in 46 FR 27476-27477, May 20, 1981.
- EPA. 1982. Errata for Ambient Water Quality Criteria Documents. February 23, 1982, update. Washington, DC: Office of Water Regulations and Standards, U.S. Environmental Protection Agency.
- *EPA. 1983a. Chromium. Method 218.2 (atomic absorption, furnace technique). Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency. EPA600479020.
- *EPA. 1983b. Chromium. Method 218.4 (atomic absorption, chelation-extraction). Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency. EPA600479020.
- *EPA. 1983c. Chromium, dissolved hexavalent (atomic absorption, furnace technique). Method 218.5. Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency. EPA600479020.
- *EPA. 1984a. Health assessment document for chromium. Research Triangle Park, NC: Environmental Assessment and Criteria Office, U.S. Environmental Protection Agency. EPA600883014F.
- *EPA. 1984b. Locating and estimating air emissions from sources of chromium. Research Triangle Park, NC: Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency. 85106474.
- EPA. 1984c. Health effects assessment for hexavalent chromium. Cincinnati, OH: Office of Emergency and Remedial Response, U.S. Environmental Protection Agency. U.S. Environmental Protection Agency, ECAOCINHO19.

9. REFERENCES

EPA. 1984d. Health effects assessment for trivalent chromium. Washington, DC: Report to Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response, EPA540186035.

*EPA. 1985a. Environmental profiles and hazard indices for constituents of municipal sludge: Chromium. Washington, DC: Office of Health and Environmental Assessment, U.S. Environmental Protection Agency.

EPA. 1985b. National primary drinking water regulations; synthetic organic chemicals, inorganic chemicals and microorganism; proposed rule. U.S. Environmental Protection Agency: Fed Regist 50:46966.

EPA. 1985c. Notification requirements; reportable quantity adjustments; final rule and proposed rule. U.S. Environmental Protection Agency: Fed Regist 50:13482.

EPA. 1985d. Drinking water criteria document for chromium (Final draft). Washington, DC: Criteria and Standards Division, Office of Drinking Water, U.S. Environmental Protection Agency. PB86118072.

*EPA. 1986a. Chromium (atomic absorption, furnace technique): Method: 7191. Test methods for evaluating solid waste. Vol. 1A: Laboratory manual physical/chemical methods 3rd ed. SW-846. Washington, DC: Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency.

*EPA. 1986b. Chromium (atomic absorption, direct aspiration): Method: 7190. Test methods for evaluating solid waste. Vol. 1A: Laboratory manual physical/chemical methods 3rd ed. Washington, DC: Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency. SW-846.

*EPA. 1986c. Chromium, hexavalent (coprecipitation): Method: 7195. Test methods for evaluating solid waste. Vol. 1A: Laboratory manual physical/chemical methods 3rd ed. Washington, DC: Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency. SW-846.

*EPA. 1986d. Chromium, hexavalent (chelation/extraction): Method: 7197. Test methods for evaluating solid waste. Vol. 1A: Laboratory manual physical/chemical methods 3rd ed. Washington, DC: Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, SW-846.

*EPA. 1986e. Chromium, hexavalent (differential pulse polarography): Method: 7198. Test methods for evaluating solid waste. Vol. 1A: Laboratory manual physical/chemical methods 3rd ed. Washington, DC: Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency. SW-846.

EPA. 1987a. Extremely hazardous substances list and threshold planning quantities; emergency planning and release notification requirements. U.S. Environmental Protection Agency. Fed Regist 52:13378-13410.

*EPA. 1987b. Quality criteria for water 1986. Washington, DC: Office of Water Regulations and Standards, U.S. Environmental Protection Agency, EPA440586001.

*EPA. 1988a. Analysis of the Clean Water Act effluent guidelines pollutants. Summary of the chemical regulated by industrial points source categories 40 CFR Parts 400-475. Draft. U.S. Environmental Protection Agency.

9. REFERENCES

*EPA. 1988b. Mining waste exclusion. U.S. Environmental Protection Agency. Fed Regist 53:41288-41300.

*EPA. 1988c. Fate of chromium(III) in chlorinated water. Cincinnati, OH: Office of Research and Development, U.S. Environmental Protection Agency. PB88130992.

*EPA. 1988d. Recommendations for and documentation of biological values for use in risk assessment. U.S. Environmental Protection Agency, Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Cincinnati, OH. PB8817874.

EPA. 1989a. Interim methods for development of inhalation reference doses. Washington, DC: U.S. Environmental Protection Agency, Office of Health and Environmental Assessment. EPA600888066F.

EPA. 1989b. National primary and secondary drinking water regulations: Proposed rule. U.S. Environmental Protection Agency. Fed Regist 54:22062-22160.

EPA. 1989c. Reportable quantity adjustments: Delisting of ammonium thiosulfate. U.S. Environmental Protection Agency. Fed Regist 54:33426-33484.

*EPA. 1990a. Interim methods for development of inhalation reference concentrations. Washington, DC: U.S. Environmental Protection Agency, Office of Health and Environmental Assessment, Office of Research and Development, Environmental Criteria and Assessment Office. EPA600890066A.

*EPA. 1990b. Noncarcinogenic effects of chromium: Update to health assessment document. Research Triangle Park, NC: Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, U.S. Environmental Protection Agency. EPA600887048F.

EPA. 1991. National primary drinking water regulations-synthetic organic chemicals and inorganic chemicals; monitoring for unregulated contaminants; national primary drinking water regulations implementation; national secondary drinking water regulations. Final rule. Fed Regist 56:3526-3597.

EPA. 1994a. Test methods for evaluating solid waste. Vol. 1A: Laboratory manual physical/chemical methods 3rd ed. Washington, DC: Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, SW-846.

*EPA. 1994b. EPA ground water issue. Natural attenuation of hexavalent chromium in groundwater and soils. Washington, DC: U.S. Environmental Protection Agency. EPA540594505.

*EPA. 1994c. Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry. Washington, DC: U.S. Environmental Protection Agency, Office of Health and Environmental Assessment, Office of Research and Development, Environmental Criteria and Assessment Office. EPA600890066F

*EPA. 1995. Emergency planning and community -right-to-know act. Title III (SARA). U.S. Environmental Protection Agency.

*EPA. 1996a. Method 7199: Determination of hexavalent chromium in drinking water, groundwater, and industrial wastewater effluents by ion chromatography. In: Test methods for evaluating solid waste. 3rd ed. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. SW-846.

9. REFERENCES

- *EPA. 1996b. Method 6010B: Inductively coupled plasma-atomic emission spectrometry. In: Test methods for evaluating solid waste. 3rd ed. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. SW-846
- EPA. 1996c. Drinking water regulations and health advisories. Washington, DC: U.S. Environmental Protection Agency, Office of Water. EPA822B96002.
- *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. 1998a. Designation of hazardous substances. Washington, DC: U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 302.4
- EPA. 1998b. Clean water effluent guidelines. Washington, DC: U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 406.
- *EPA. 1998c. Notice of availability of RCRA waste minimization PBT chemical list. U.S. Environmental Protection Agency. Fed Regist 63:60332. <http://www.gpoaccess.gov/fr/index.html>. May 05, 2008.
- *EPA. 2000. Benchmark dose technical guidance document. Washington, DC: U.S. Environmental Protection Agency. EPA630R00001.
- *EPA. 2003. National primary drinking water standards. Washington, DC: U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water. EPA816F03016. <http://www.epa.gov/safewater/mcl.html>. March 07, 2006.
- *EPA. 2005. Toxic chemical release inventory reporting forms and instructions: Revised 2004 version. Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986). U.S. Environmental Protection Agency. Office of Environmental Information. EPA260B05001.
- *EPA. 2006a. 2006 Edition of the drinking water standards and health advisories. Washington, DC: Office of Water, U.S. Environmental Protection Agency. EPA822R06013. <http://www.epa.gov/waterscience/criteria/drinking/dwstandards.pdf>. April 11, 2007.
- *EPA. 2006b. National recommended water quality criteria. Washington, DC: U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology. <http://www.epa.gov/waterscience/criteria/nrwqc-2006.pdf>. January 08, 2008.
- *EPA. 2007a. Acute exposure guideline levels (AEGLs) Washington, DC: Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency. <http://www.epa.gov/oppt/aegl/pubs/compiled.pdf>. April 24, 2008.
- *EPA. 2007b. The Clean Air Act amendments of 1990 list of hazardous air pollutants. Clean Air Act. U.S. Environmental Protection Agency. United States Code. 42 USC 7412. <http://www.epa.gov/ttn/atw/orig189.html>. April 24, 2008.
- *EPA. 2008a. Acute exposure guideline levels (AEGLs). Second AEGL chemical priority list. U.S. Environmental Protection Agency. http://www.epa.gov/oppt/aegl/pubs/priority_2.htm. April 24, 2008.

9. REFERENCES

- *EPA. 2008b. Designation of hazardous substances. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 116.4. <http://www.epa.gov/lawsregs/search/40cfr.html>. April 24, 2008.
- *EPA. 2008c. Determination of reportable quantities. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 117.3. <http://www.epa.gov/lawsregs/search/40cfr.html>. April 24, 2008.
- *EPA. 2008d. Groundwater monitoring list. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 264, Appendix IX. <http://www.epa.gov/lawsregs/search/40cfr.html>. May 05, 2008.
- *EPA. 2008e. Inert ingredients permitted for use in nonfood use pesticide products. U.S. Environmental Protection Agency. <http://www.epa.gov/opprd001/inerts/lists.html>. April 24, 2008.
- *EPA. 2008f. Master testing list. Washington, DC: Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency. <http://www.epa.gov/opptintr/chemtest/pubs/mtl.htm>. April 24, 2008.
- *EPA. 2008g. 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. <http://www.epa.gov/lawsregs/search/40cfr.html>. April 24, 2008.
- *EPA. 2008h. Toxic chemical release reporting. Chemicals and chemical categories to which this part applies. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 372.65. <http://www.epa.gov/lawsregs/search/40cfr.html>. April 24, 2008.
- *EPA. 2008i. Toxic pollutants. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 401.15. <http://www.epa.gov/lawsregs/search/40cfr.html>. April 24, 2008.
- *EPA. 2008j. Designation of hazardous substances. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 302.4. <http://www.epa.gov/lawsregs/search/40cfr.html>.
- Escobar P, Sicard DM, Alfonso E, et al. 1998. The comet assay and DNA damage in a human population exposed to chromium compounds. *Environ Mol Mutagen* 31(Suppl 29):72.
- +*Eun HC, Marks R. 1990. Dose-response relationships for topically applied antigens. *Br J Dermatol* 122:491-499.
- +Evan AP, Dail WG. 1974. The effects of sodium chromate on the proximal tubules of the rat kidney: Fine structural damage and lysozymuria. *Lab Invest* 30(6):704-715.
- *Evans GW. 1989. The effect of chromium picolinate on insulin controlled parameters in humans. *Int J Biosocial Med Res* 11(2):163-180.
- Evans GW, Pouchnik DJ. 1993. Composition and biological activity of chromium-pyridine carboxylate complexes. *J Inorg Biochem* 49:177-187.
- Evock-Clover CM, Polansky MM, Anderson RA, et al. 1993. Dietary chromium supplementation with or without somatotropin treatment alters serum hormones and metabolites in growing pigs without affecting growth performance. *J Nutr* 123:1504-1512.
- Ewis AA, Kondo K, Dang F, et al. 2006. Surfactant protein B gene variations and susceptibility to lung cancer in chromate workers. *Am J Ind Med* 49(5):367-373.

9. REFERENCES

- Fadhel ZA, Al-Hamood MH. 2000. Chromium-induced lipid peroxidation in nursing mice and their offspring. *Res Commun Pharmacol Toxicol* 5:167-175.
- *Fagliano JA, Savrin J, Udasin I, et al. 1997. Community exposure and medical screening near chromium waste sites in New Jersey. *Regul Toxicol Pharmacol* 26:S13-S22.
- Fahmi CJ. 2007. Biological applications of x-ray fluorescence microscopy: Exploring the subcellular topography and speciation of transition metals. *Curr Opin Chem Biol* 11(2):127-127.
- Fahmy MA, Shoman HM, Hassan EES. 2002. The protective role of thiola and soybean seeds against the genotoxicity induced by potassium dichromate in mice. *Mutat Res* 517:1-12.
- *Fahrni C. 2007. Biological applications of x-ray fluorescence microscopy: Exploring the subcellular topography and speciation of transition metals. *Curr Opin Chem Biol* 11:121-127.
- Fairhurst S, Minty CA. 1989. The toxicity of chromium and inorganic chromium compounds. Health and safety executive review. *Toxicity Review* 21. London: Her Majesty's Stationery Office.
- *Falerios M, Schild K, Sheehan P et al. 1992. Airborne concentrations of trivalent and hexavalent chromium from contaminated soils at unpaved and partially paved commercial/industrial sites. *J Air Waste Manage Assoc* 42:40-48.
- Fatima S, Mahmood R. 2007. Vitamin C attenuates potassium dichromate-induced nephrotoxicity and alterations in renal brush border membrane enzymes and phosphate transport in rats. *Clin Chim Acta* 386(1-2):94-99.
- *FDA. 2007a. Beverages. Bottled water. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 165.110. <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm>. April 24, 2008.
- *FDA. 2007b. Indirect food additives: Adhesives and components of coatings. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 175.105. <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm>. April 24, 2008.
- *FDA. 2007c. Nutrition labeling of food. U.S. Food and Drug Administration. Code of Federal Regulations. 21 CFR 101.9. <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm>. May 20, 2008.
- *FDA. 2008. EAFUS: A food additive database. U.S. Food and Drug Administration. <http://vm.cfsan.fda.gov/~dms/eafus.html>. April 24, 2008.
- *Febel H, Szegedi B, Huszar S. 2001. Absorption of inorganic, trivalent and hexavalent chromium following oral and intrajejunal doses in rats. *Acta Vet Hung* 49(2):203-209.
- *FEDRIP. 2008. Chromium. Federal Research in Progress database. Springfield, VA: National Technical Information Service.
- Feltzer SP, Dourson ML. 1997. Hexavalent chromium-contaminated soils: Options for risk assessment and risk management. *Regul Toxicol Pharmacol* 25:43-59.

9. REFERENCES

- Feng Z, Hu W, Rom WN, et al. 2003. Chromium(VI) exposure enhances polycyclic aromatic hydrocarbon-DNA binding at the p53 gene in human lung cells. *Carcinogenesis* 24(4):771-778.
- Fernandes MAS, Geraldine CFGC, Oliverira CR, et al. 2000. Chromate-induced human erythrocytes haemoglobin oxidation and peroxidation: Influence of vitamin E, vitamin C, salicylate, deferoxamine, and N-ethylmaleimide. *Toxicol Lett* 114:237-243.
- Fernandes MAS, Mota IM, Silva MTL, et al. 1999. Human erythrocytes are protected against chromate-induced peroxidation. *Ecotoxicol Environ Saf* 43(1):38-46.
- *Fernandez-Nieto M, Quirce S, Carnes J, et al. 2006. Occupational asthma due to chromium and nickel salts. *Int Arch Occup Environ Health* 79:483-486.
- Fernandez-Nieto M, Quirce S, Cuesta J, et al. 2003. Occupational asthma due to chrome and nickel salts: Description of four cases. *J Allergy Clin Immunol* 111(2):S94.
- *Finley B, Fehling K, Falerios M, et al. 1993. Field validation for sampling and analysis of airborne hexavalent chromium. *Appl Occup Environ Hyg* 8(3):191-200.
- Finley BL, Mayhall DA. 1994. Airborne concentrations of chromium due to contaminated interior building surfaces. *Appl Occup Hyg* 9:433-441.
- *Finley BL, Paustenbach DJ. 1997. Using applied research to reduce uncertainty in health risk assessment: Five case studies involving human exposure to chromium in soil and groundwater. *J Soil Contam* 6(6):650-705.
- *Finley BL, Kerger BD, Dodge DG, et al. 1996a. Assessment of airborne hexavalent chromium in the home following use of contaminated tapwater. *J Expo Anal Environ Epidemiol* 6(2):229-245.
- +*Finley BL, Kerger BD, Katona MW, et al. 1997. Human ingestion of chromium (VI) in drinking water: Pharmacokinetics of following repeated exposure. *Toxicol Appl Pharmacol* 142:151-159.
- +*Finley BL, Scott PK, Norton RL, et al. 1996b. Urinary chromium concentrations in humans following ingestion of safe doses of hexavalent and trivalent chromium: Implications for biomonitoring. *J Toxicol Environ Health* 48:479-499.
- *Fishbein L. 1981. Sources, transport and alterations of metal compounds: An overview. I. Arsenic, beryllium, cadmium, chromium and nickel. *Environ Health Perspect* 40:43-64.
- *Fishbein L. 1984. Overview of analysis of carcinogenic and/or mutagenic metals in biological and environmental samples: I. Arsenic, beryllium, cadmium, chromium and selenium. *Int J Environ Anal Chem* 17:113-170.
- Fisher AA. 1998. Cement injuries: Part I. Cement hand dermatitis resulting in "chrome cripples". *Cutis* 61(2):64.
- Flint GN, Carter SV, Fairman B. 1998. Skin allergy from exposure to alloys of chromium. *Contact Dermatitis* 39:315-316.
- *Flores A, Perez JM. 1999. Cytotoxicity, apoptosis, and *in vitro* DNA damage induced by potassium chromate. *Toxicol Appl Pharmacol* 161:75-81.

9. REFERENCES

- +*Foa V, Riboldi L, Patroni M, et al. 1988. Effects derived from long-term low-level chromium exposure in ferro-alloy metallurgy. Study of absorption and renal function in workers. *Sci Total Environ* 71:389-400.
- *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.
- Foo SC, Khoo NY, Heng A, et al. 1993. Metals in hair as biological indices for exposure. *Int Arch Occup Environ Health* 65:S83-S86.
- Forbes RM, Erdman JW. 1983. Bioavailability of trace mineral elements. *Annu Rev Nutr* 3:213-231.
- *Fornace AJ, Seres DS, Lechner JF, et al. 1981. DNA-protein cross-linking by chromium salts. *Chem Biol Interact* 36:345-354.
- Fowler JF, Kauffman CL, Marks JG, et al. 1999. An environmental hazard assessment of low-level dermal exposure to hexavalent chromium in solution among chromium-sensitized volunteers. *J Occup Environ Med* 41(3):150-160.
- Fox GN, Sabovic Z. 1998. Chromium picolinate supplementation for diabetes mellitus. *J Fam Pract* 46(1):83-86.
- Fradkin A, Janoff A, Lane B, et al. 1975. *In vitro* transformation of BHK21 cells grown in the presence of calcium chromate. *Cancer Res* 35:1058-1063.
- +*Franchini I, Mutti A. 1988. Selected toxicological aspects of chromium(VI) compounds. *Sci Total Environ* 71:379-387.
- +*Franchini I, Magnani F, Mutti A. 1983. Mortality experience among chromeplating workers. *Scand J Work Environ Health* 9:247-252.
- +Franchini I, Mutti A, Cavatorta A, et al. 1978. Nephrotoxicity of chromium. *Contrib Nephrol* 10:98-110.
- Fraser DJ, Brandt TL, Kroll DJ. 1995. Topoisomerase II α promoter trans-activation early in monocytic differentiation of HL-60 human leukemia cells. *Mol Pharmacol* 47:696-706.
- Freeman NC, Stern AH, Liroy PJ. 1997. Exposure to chromium dust from homes in a chromium surveillance project. *Arch Environ Health* 52(3):213-219.
- +*Fregert S. 1975. Occupational dermatitis in a 10-year material. *Contact Dermatitis* 1:96-107.
- +*Fregert S, Rorsman H. 1964. Allergy to trivalent chromium. *Arch Dermatol* 90:4-6.
- +*Fregert S, Rorsman H. 1966. Allergic reactions to trivalent chromium compounds. *Arch Dermatol* 93:711-713.

9. REFERENCES

- +Fregert S, Hjorth N, Magnusson B, et al. 1969. Epidemiology of contact dermatitis. *Trans St John's Hosp Dermatol Soc* 55:17-35.
- +*Frentzel-Beyme R. 1983. Lung cancer mortality of workers employed in chromate pigment factories. *J Cancer Res Clin Oncol* 105:183-188.
- Fresco P, Shacker F, Kortenkamp A. 1995. The reductive conversion of chromium (VI) by ascorbate gives rise to apurinic/aprimidinic sites in isolated DNA. *Chem Res Toxicol* 8:884-890.
- +*Fristedt B, Lindqvist B, Schutz A, et al. 1965. Survival in a case of acute oral chromic acid poisoning with acute renal failure treated by haemodialysis. *Acta Med Scand* 177:153-159.
- *Fryzek JP, Mumma MT, McLaughlin JK, et al. 2001. Cancer mortality in relation to environmental chromium exposure. *J Occup Environ Med* 43(7):635-640.
- +*Fujii T, Sakamoto Y, Fukumori N, et al. 1976. [Primary eye irritation tests using a chromium dross extract]. *Annual Report of the Tokyo Metropolitan Research Laboratory of Public Health* 27:124-128. (Japanese)
- Fukai R. 1967. Valency state of chromium in seawater. *Nature* 213:901.
- *Fukunaga M, Kurachi Y, Mizuguchi Y. 1982. Action of some metal ions on yeast chromosomes. *Chem Pharm Bull* 30(8):3017-3019.
- Fullerton A, Gammelgaard B, Avnstorp C, et al. 1993. Chromium content in human skin after in vitro application of ordinary cement and ferrous-sulphate-reduced cement. *Contact Dermatitis* 29:133-137.
- Furst A, Haro RT. 1969. A survey of metal carcinogenesis. *Prog Exp Tumor Res* 12:102-133.
- +*Furst A, Schlauder M, Sasmore DP. 1976. Tumorigenic activity of lead chromate. *Cancer Res* 36:1779-1783.
- Fusheng Y, Yaping M, Zhongcheng W. 1999. Content of metals in different diameter airborne particles and effect on micronuclei formation in human lymphocytes. *J Hyg Res* 28(1):21-22.
- Gad SC. 1989. Acute and chronic systemic chromium toxicity. *Sci Total Environ* 86:149-157.
- +*Gad SC, Powers WJ, Dunn BJ, et al. 1986. Acute toxicity of four chromate salts. In: Serrone DM, ed. *Chromium symposium 1986: An update*. Pittsburgh, PA: Industrial Health Foundation Inc., 43-58.
- Gagné SM, Li MX, Sykes BD. 1997. Mechanism of direct coupling between binding and induced structural change in regulatory calcium binding proteins. *Biochemistry* 36:4386-4392.
- +Gale TF. 1978. Embryotoxic effects of chromium trioxide in hamsters. *Environ Res* 16:101-109.
- +Gale TF. 1982. The embryotoxic response to maternal chromium trioxide exposure in different strains of hamsters. *Environ Res* 29:196-203.
- +Gale TF, Bunch JD III. 1979. The effect of the time of administration of chromium trioxide on the embryotoxic response in hamsters. *Teratology* 19:81-86.

9. REFERENCES

- *Gambelungha A, Piccinini R, Abbritti G, et al. 2006. Chromium VI-induced apoptosis in a human bronchial epithelial cell line (BEAS-2B) and a lymphoblastic leukemia cell line (MOLT-4). *J Occup Environ Med* 48(3):319-325.
- *Gambelungha A, Piccinini R, Ambrogi M, et al. 2003. Primary DNA damage in chrome-plating workers. *Toxicology* 188:187-195.
- +*Gao M, Levy LS, Braithwaite RA, et al. 1993. Monitoring of total chromium in rat fluids and lymphocytes following intratracheal administration of soluble trivalent or hexavalent chromium compounds. *Hum Exp Toxicol* 12:377-382.
- +*Gao M, Levy LS, Faux SP, et al. 1994. Use of molecular epidemiological techniques in a pilot study on workers exposed to chromium. *Occup Environ Med* 51:663-668.
- *Gao N, Jiang BH, Leonard SS, et al. 2002. p38 Signaling-mediated hypoxia-inducible factor 1alpha and vascular endothelial growth factor induction by Cr(VI) in DU145 human prostate carcinoma cells. *J Biol Chem* 277(47):45041-45048.
- *Garcia E, Cabrera C, Lorenzo ML, et al. 2001. Estimation of chromium bioavailability from the diet by an in vitro method. *Food Addit Contam* 18(7):601-606.
- *Garcia J, Jennette K. 1981. Electron-transport cytochrome P-450 system is involved in the microsomal metabolism of the carcinogen chromate. *J Inorganic Biochem* 14:281-295.
- +*Gargas ML, Norton RL, Paustenbach DJ, et al. 1994. Urinary excretion of chromium by humans following ingestion of chromium picolinate: Implications for biomonitoring. *Drug Metab Dispos* 22(4):522-529.
- *Gasiorowski K, Szyba K, Wozniak D, et al. 1997. Inhibition of potassium dichromate mutagenicity by todralazine. *Mutagenesis* 12(6):411-415.
- *Gasiorowski K, Szyba K, Wozniak D, et al. 1998. Genotoxicity of Cr(VI) can be markedly lowered by complexation of the chromate anion. *BioMetals* 11:175-181.
- *Gass JK, Todd PM. 2007. Multiple manifestations of chromate contact allergy. *Contact Dermatitis* 56(5):290-291.
- *Gava C, Costa R, Zordan M, et al. 1989a. Induction of gene mutations in Salmonella and Drosophila by soluble Cr(VI) compounds: Synergistic effects of nitrilotriacetic acid. *Toxicol Environ Chem* 22:27-38.
- *Gava C, Perazzolo M, Zentilin L, et al. 1989b. Genotoxic potentiality and DNA-binding properties of acetylacetone, maltol, and their aluminum(III) and chromium(III) neutral complexes. *Toxicol Environ Chem* 22:149-157.
- Gavin IM, Gillis B, Arbieva Z, et al. 2007. Identification of human cell responses to hexavalent chromium. *Environ Mol Mutagen* 48:650-657.
- Geetha S, Ram MS, Mongia SS, et al. 2003. Evaluation of antioxidant activity of leaf extract of Seabuckthorn (*Hippophae rhamnoides* L.) on chromium(VI) induced oxidative stress in albino rats. *J Ethnopharmacol* 87(2-3):247-251.

9. REFERENCES

- Geier A, Bar-Shalom I, Beery R, et al. 1996. Induction of apoptosis in MDA-231 cells by protein synthesis inhibitors is suppressed by multiple agents. *Cancer Invest* 14(5):435-444.
- *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.
- *Gianello G, Masci O, Carelli G, et al. 1998. Occupational exposure to chromium—An assessment of environmental pollution levels and biological monitoring of exposed workers. *Ind Health* 36:74-77.
- Gibb HJ, Chen CW, Hiremath CB. 1988. Carcinogen risk assessment of chromium compounds. Washington, DC: Office of Health and Environmental Assessment, Office of Research and Development, U.S. Environmental Protection Agency. EPA600D880129.
- +*Gibb HJ, Lees PSJ, Pinsky PF, et al. 2000a. Clinical findings of irritation among chromium chemical production workers. *Am J Ind Med* 38:127-131.
- +*Gibb HJ, Lees PSJ, Pinsky PF, et al. 2000b. Lung cancer among workers in chromium chemical production. *Am J Ind Med* 38:115-126.
- *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.
- +*Glaser U, Hochrainer D, Kloppel H, et al. 1985. Low level chromium(VI) inhalation effects on alveolar macrophages and immune functions in Wistar rats. *Arch Toxicol* 57:250-256.
- +*Glaser U, Hochrainer D, Kloppel H, et al. 1986. Carcinogenicity of sodium dichromate and chromium(VI/III) oxide aerosols inhaled by male Wistar rats. *Toxicology* 42:219-232.
- +*Glaser U, Hochrainer D, Oldiges H. 1988. Investigations of the lung carcinogenic potentials of sodium dichromate and Cr VI/III oxide aerosols in Wistar rats. *Environ Hyg* 1:111-116.
- +*Glaser U, Hochrainer D, Steinhoff D. 1990. Investigation of irritating properties of inhaled CrVI with possible influence on its carcinogenic action. *Environ Hyg* 2:235-245.
- Gochfeld M. 1991. Panel discussion: Analysis of chromium: Methodologies and detection levels and behavior of chromium in environmental media. *Environ Health Perspect* 92:42-43.
- Gochfeld M, Witmer C. 1991. A research agenda for environmental health aspects of chromium, *Environ Health Perspect* 92:141-144.
- Goicolea A, Barrio RJ, de Balugera ZG, et al. 1998. Study of the toxicity in industrial soils by the bioluminescence assay. *J Environ Sci Health Part A* 33(5):863-875.
- +*Goitre M, Bedello PG, Cane D. 1982. Chromium dermatitis and oral administration of the metal. *Contact Dermatitis* 8:208-209.
- *Goldbohm RA, Tielemans ELJP, Heederik D, et al. 2006. Risk estimation for carcinogens based on epidemiological data: A structured approach, illustrated by an example on chromium. *Regul Toxicol Pharmacol* 44:294-310.

9. REFERENCES

Goldfrank LR, Flomenbaum NE, Lewin NA, et al. 2002. In: Goldfrank LR, ed. Goldfrank's toxicologic emergencies. 7th ed. New York, NY: McGraw-Hill, 1282, 1289-1290, 1134.

+*Goldman M, Karotkin RH. 1935. Acute potassium bichromate poisoning. *Am J Med Sci* 189:400-403.

*Goldsby RA, Kindt TJ, Osborne BA, et al. 2003. Hypersensitive reactions. *Immunology*. 5th ed. New York, NY: W.H. Freeman and Company, 361-386.

+*Gomes E. 1972. Incidence of chromium-induced lesions among electroplating workers in Brazil. *Ind Med* 41(12):21-25.

*Gomez-Arroyo S, Altamirano M, Villalobos-Pietrini R. 1981. Sister chromatid exchanges induced by some chromium compounds in human lymphocytes in vitro. *Mutat Res* 90:425-431.

*Gonzalez AR, Ndung'u K, Flegal AR. 2005. Natural occurrence of hexavalent chromium in the aromas red sands aquifer, California. *Environ Sci Technol* 39:5505-5511.

*Gonzalez-Vergara E, De Gonzalez BC, Hegenauer J, et al. 1981. Chromium coordination compounds of pyridoxal and nicotinic acid: Synthesis, absorption and metabolism. *Isr J Chem* 21:18-22.

Goulart M, Batoreu MC, Rodrigues AS, et al. 2005. Lipoperoxidation products and thiol antioxidants in chromium exposed workers. *Mutagenesis* 20(5):311-315.

*Grant KE, Chandler RM, Castle AL, et al. 1997. Chromium and exercise training: Effect on obese women. *Med Sci Sports Exer* 29:992-998.

Grawe KP, Teiling-Gardlund A, Jalkestén E, et al. 2004. Increased spontaneous motor activity in offspring after maternal cadmium exposure during lactation. *Environ Toxicol Pharmacol* 17(1):35-40.

*Gray SJ, Sterling K. 1950. The tagging of red cells and plasma proteins with radioactive chromium. *J Clin Invest* 29:1604-1613.

*Greenberg RR, Zeisler R. 1988. A radiochemical procedure for ultratrace determination of chromium in biological materials. *J Radioanal Nucl Chem* 124(1):5-20.

+*Gregus Z, Klaassen CD. 1986. Disposition of metals in rats: A comparative study of fecal, urinary, and biliary excretion and tissue distribution of eighteen metals. *Toxicol Appl Pharmacol* 85:24-38.

*Greig RA, Jones J. 1976. Nondestructive neutron activation analysis of marine organisms collected from ocean dump sites of the middle eastern United States. *Arch Environ Contam Toxicol* 4(4):420-434.

*Griepink B, Tolg G. 1989. Sample digestion for the determination of elemental traces in matrices of environmental concern. *Pure Appl Chem* 61(6):1139-1146.

Grogan CH. 1957. Experimental studies in metal carcinogenesis VIII. On the etiological factor in chromate cancer. *Cancer* 10:625-638.

Grogan CH, Oppenheimer H. 1955. Experimental studies in metal carcinogenesis. V. Interaction of Cr(III) and Cr(VI) compounds with proteins. *Arch Biochem Biophys* 56:204-221.

9. REFERENCES

- Gromadzinska J, Wasowicz W, Sklodowska M, et al. 1996. The influence of atmospheric chromium on selenium content and glutathione peroxidase activity in blood of tannery workers. *Environ Health Perspect* 104(12):1312-1316.
- +*Gross PR, Katz SA, Samitz MH. 1968. Sensitization of guinea pigs to chromium salts. *J Invest Dermatol* 50(5):424-427.
- *Gruber JE, Jennette KW. 1978. Metabolism of the carcinogen chromate by rat liver microsomes. *Biochem Biophys Res Commun* 82(2):700-706.
- *Guillemin MP, Berode M. 1978. A study of the difference in chromium exposure in workers in two types of electroplating process. *Ann Occup Hyg* 21:105-112.
- +Gumbleton M, Nicholls PJ. 1988. Dose-response and time-response biochemical and histological study of potassium dichromate-induced nephrotoxicity in the rat. *Food Chem Toxicol* 26(1):37-44.
- *Gunaratnam M, Grant MH. 2002. Chromium(VI)-induced damage to the cytoskeleton and cell death in isolated hepatocytes. *Biochem Soc Trans* 30(4):748-750.
- *Gunaratnam M, Grant MH. 2004. Damage to F-actin and cell death induced by chromium VI and nickel in primary monolayer cultures of rat hepatocytes. *Toxicol In Vitro* 18:245-253.
- Gurjar BR, Mohan M, Sidhu KS. 1996. Potential health risks related to carcinogens in the atmospheric environment in India. *Regul Toxicol Pharmacol* 24:141-148.
- Gurson CT. 1977. The metabolic significance of dietary chromium. *Adv Nutr Res* 1:23-53.
- Gustavsson P, Jakobsson R, Johansson H, et al. 1998. Occupational exposures and squamous cell carcinoma of the oral cavity, pharynx, larynx, and oesophagus: A case-control study in Sweden. *Occup Environ Med* 55:393-400.
- Guthrie BE. 1982. The nutritional role of chromium. In: Lang S, ed. *Biological and environmental aspects of chromium*. Amsterdam: Elsevier Biomedical Press, 117-148.
- *Guzelian PS, Henry CJ, Olin SS. 1992. Similarities and differences between children and adults: Implications for risk assessment. Washington, DC: International Life Sciences Institute Press.
- +*Gylseth B, Gundersen N, Lang S. 1977. Evaluation of chromium exposure based on a simplified method for urinary chromium determination. *Scand J Work Environ Health* 3:28-31.
- *Ha L, Ceryak S, Patierno SR. 2003. Chromium (VI) activates ataxia telangiectasia mutated (ATM) protein. Requirement of ATM for both apoptosis and recovery from terminal growth arrest. *J Biol Chem* 278(20):17885-17894.
- *Ha L, Ceryak S, Patierno SR. 2004. Generation of S phase-dependent DNA double-strand breaks by Cr(VI) exposure: Involvement of ATM in Cr(VI) induction of gamma-H2AX. *Carcinogenesis* 25(11):2265-2274.
- *Haberman PJ, Baggett JM, Berndt WO. 1987. The effect of chromate on citrinin-induced renal dysfunction in the rat. *Toxicol Lett* 38:83-90.

9. REFERENCES

*Haddad LM, Shannon MW, Winchester JF, eds. 1998. Chromium. In: Clinical management of poisoning and drug overdose. 3rd ed. Philadelphia, PA: W.B. Sanders Company, 794-795.

+*Haguenoer JM, Dubois G, Frimat P, et al. 1981. [Mortality due to bronch-pulmonary cancer in a factory producing pigments based on lead and zinc chromates]. In: Prevention of occupational cancer - International Symposium, Occupational Safety and Health Series 46. Geneva, Switzerland: International Labour Office, 168-176. (French)

Halasova E, Baska T, Kikura F, et al. 2005. Lung cancer in relation to occupational and environmental chromium exposure and smoking. *Neoplasma* 52(4):287-291.

*Hallmark MA, Reynolds TH, DeSouza CA, et al. 1996. Effects of chromium on resistance training on muscle strength and body composition. *Med Sci Sports Exerc* 28:139-144.

*Hamamy HA, Al-Hakkak ZS, Hussain AF. 1987. Chromosome aberrations in workers in a tannery in Iraq. *Mutat Res* 189:395-398.

Hamdan S, Morse B, Reinhold D. 1999. Nickel subsulfide is similar to potassium dichromate in protecting normal human fibroblasts from the mutagenic effects of benzo[a]pyrene diepoxide. *Environ Mol Mutagen* 33:211-218.

Hanaoka T, Yamano Y, Katsuno N, et al. 1997. Elevated serum levels of pantropic p53 proteins in chromium workers. *Scand J Work Environ Health* 23:37-40.

Hanna PM, Kadiiska MB, Jordan SJ, et al. 1993. Role of metallothionein in zinc(II) and chromium(III) mediated tolerance to carbon tetrachloride hepatotoxicity: Evidence against a trichloromethyl radical-scavenging mechanism. *Chem Res Toxicol* 6:711-717.

+*Hansen MB, Johansen JD, Menne T. 2003. Chromium allergy: Significance of both Cr(III) and Cr(VI). *Contact Dermatitis* 49(4):206-212.

*Hansen MB, Menne T, Johansen JD. 2006a. Cr(III) and Cr(VI) in leather and elicitation of eczema. *Contact Dermatitis* 54(5):278-282.

+*Hansen MB, Menne T, Johansen JD. 2006b. Cr(III) reactivity and foot dermatitis in Cr(VI) positive patients. *Contact Dermatitis* 54(3):140-144.

+*Hanslian L, Navratil J, Jurak J, et al. 1967. [Damage to the upper respiratory tract by a chromic acid aerosol]. *Pracovni Lekarstvi* 19:294-298. (Czechoslovakian)

Hanston P, Van Caenegem O, Decordier I, et al. 2005. Hexavalent chromium ingestion: Biological markers of nephrotoxicity and genotoxicity. *Clin Toxicol* 43(2):111-112.

*Harnly JM, Patterson KY, Veillon C, et al. 1983. Comparison of electrothermal atomic absorption spectrometry and atomic emission spectrometry for determination of chromium in urine. *Anal Chem* 55:1417-1419.

Harreus U, Baumeister P, KleinSasser N, et al. 2007. Genotoxic effects of metals on human salivary gland tissue and lymphocytes as detected by the Comet assay. *Toxicol Environ Chem Rev* 89(2):205-214.

9. REFERENCES

- *Hartford WH. 1979. Chromium compounds. In: Grayson M, ed. Kirk-Othmer encyclopedia of chemical technology. 3rd ed. Vol. 6. New York, NY: John Wiley and Sons, 82-120.
- Hartwig A. 1998. Carcinogenicity of metal compounds: Possible role of DNA repair inhibition. *Toxicol Lett* 102-103:235-239.
- *Harzdorf C, Janser G. 1984. The determination of chromium(VI) in waste water and industrial effluents by differential pulse polarography. *Anal Chim Acta* 165:201-207.
- *Hasan A. 2007. A case report: Ammonium dichromate poisoning. *Biomed Res* 18(1):35-37.
- Hasten DL, Hegsted M, Keenan MJ, et al. 1997. Effects of various forms of dietary chromium in growth and body composition in the rat. *Nutr Res* 17(2):283-294.
- *Hasten DL, Rome EP, Franks BD, et al. 1992. Effects of chromium picolinate on beginning weight training students. *Int J Sport Nutr* 2:343-350.
- Havel PJ. 2004. A scientific review: The role of chromium in insulin resistance. Supplement to the diabetes educator.
- *Haworth S, Lawlor T, Mortelmans K, et al. 1983. Salmonella mutagenicity test results for 250 chemicals. *Environ Mutagen Suppl* 1:3-142.
- Hayashi M, Sutou S, Shimada H, et al. 1989. Difference between intraperitoneal and oral gavage application in the micronucleus test. *Mutat Res* 223:329-344.
- Hayes RB. 1988. Review of occupational epidemiology of chromium chemicals and respiratory cancer. *Sci Total Environ* 71:331-339.
- Hayes RB. 1997. The carcinogenicity of metals in humans. *Cancer Causes Control* 8:371-385.
- +*Hayes RB, Lilienfeld AM, Snell LM. 1979. Mortality in chromium chemical production workers: A prospective study. *Int J Epidemiol* 8(4):365-374.
- +*Hayes RB, Sheffet A, Spirtas R. 1989. Cancer mortality among a cohort of chromium pigment workers. *Am J Ind Med* 16:127-133.
- *HazDat. 2008. Chromium. HazDat Database: ATSDR's Hazardous Substance Release and Health Effects Database. Atlanta, GA: Agency for Toxic Substances and Disease Registry. <http://www.atsdr.cdc.gov/hazdat.html>. May 02, 2008.
- *He X, Lin GX, Chen MG, et al. 2007. Protection against chromium (VI)-induced oxidative stress and apoptosis by Nrf2. Recruiting Nrf2 into the nucleus and disrupting the nuclear Nrf2/Keap1 association. *Toxicol Sci* 98(1):298-309.
- Heitland P, Koster HD. 2006. Biomonitoring of 30 trace elements in urine of children and adults by ICP-MS. *Clin Chim Acta* 365(1-2):310-318.
- *Hemminki K, Vainio H. 1984. Human exposure to potentially carcinogenic compounds. *IARC Scientific Publ No.* 59:37-45.

9. REFERENCES

- +*Henderson RF, Rebar AH, Pickrell JA, et al. 1979. Early damage indicators in the lung. III. Biochemical and cytological response of the lung to inhaled metal salts. *Toxicol Appl Pharmacol* 50:123-136.
- *Henshaw JM, Heithmar EM, Hinnert TA. 1989. Inductively coupled plasma mass spectrometric determination of trace elements in surface waters subject to acidic deposition. *Anal Chem* 61:335-342.
- Hernberg S. 1977. Incidence of cancer in population with exceptional exposure to metals. Cold Spring Harbor conference: Cell proliferation 4:147-157.
- +Hernberg S, Westerholm P, Schultz-Larsen K, et al. 1983. Nasal and sinonasal cancer: Connection with occupational exposures in Denmark, Finland and Sweden. *Scand J Work Environ Health* 9:315-326.
- Hewitt PJ. 1988. Accumulation of metals in the tissues of occupationally exposed workers. *Environ Geochem Health* 10:113-116.
- Higashi N, Taki H, Nishimura Y, et al. 1993. Chromium and tritiated thymidine releases from target cells are differential events in human monocyte/macrophage-mediated cytotoxicity. *Cell Immunol* 150:333-342.
- *Higgins TE, Halloran AR, Petura JC. 1997. Traditional and innovative treatment methods for Cr(VI) in soil. *J Soil Contam* 6(6):767-797.
- Hilaski R, Katz S, Salem H. 1992. Inhalation toxicity of chromium from Whetlerite dust in rats. *Toxicol Lett* 62:25-31.
- +*Hill WJ, Ferguson WS. 1979. Statistical analysis of epidemiological data from a chromium chemical manufacturing plant. *J Occup Med* 21:103-106.
- Hirose T, Kondo K, Takahashi Y, et al. 2002. Frequent microsatellite instability in lung cancer from chromate-exposed workers. *Mol Carcinog* 33(3):172-180.
- Hjollund NH, Bonde JP, Ernst E, et al. 2005. Spontaneous abortion in IVF couples-a folre of male welding exposure. *Hum Reprod* 20(7):1793-1797.
- Hjollund NH, Bonde JP, Jensen TK, et al. 2000. Male-mediated spontaneous abortion among spouses of stainless steel welders. *Scand J Work Environ Health* 26(3):187-192.
- +*Hjollund NHI, Bonde JPE, Hansen KS. 1995. Male-mediated risk of spontaneous abortion with reference to stainless steel welding. *Scand J Work Environ Health* 21:272-276.
- Hjollund NHI, Bonde JPE, Jensen TK, et al. 1998. Semen quality and sex hormones with reference to metal welding. *Reprod Toxicol* 12(2):91-95.
- Hneihen AS, Standeven AM, Wetterhahn KE. 1993. Differential binding of chromium(VI) and chromium(III) complexes to salmon sperm nuclei and nuclear DNA and isolated calf thymus DNA. *Carcinogenesis* 14(9):1795-1803.
- Hodges NJ, Adam B, Lee AJ. 2001. Induction of DNA-strand breaks in human peripheral blood lymphocytes and A549 lung cells by sodium dichromate: Association with 8-oxo-2-deoxyguanosine formation and inter-individual variability. *Mutagenesis* 16(6):467-474.

9. REFERENCES

Hodges NJ, Smart D, Lee AJ, et al. 2004. Activation of c-Jun N-terminal kinase in A549 lung carcinoma cells by sodium dichromate: Role of dissociation of apoptosis signal regulating kinase-1 from its physiological inhibitor thioredoxin. *Toxicology* 197:101-112.

*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.

Hofmann W, Balashazy I, Heistracher T, et al. 1996. The significance of particle deposition patterns in bronchial airway bifurcations for extrapolation modeling. *Aerosol Sci Technol* 25(3):305-327.

+*Hojo Y, Satomi Y. 1991. In vivo nephrotoxicity induced in mice by chromium(VI): Involvement of glutathione and chromium(V). *Biol Trace Elem Res* 31:21-31.

*Hojo Y, Nishiguchi K, Kawazoe S, et al. 1999. Comparison of susceptibility of liver and kidney to lipid peroxidation induction Cr(IV), Cr(V) and Cr(VI) compounds. *J Health Sci* 45(6):329-332.

*Hojo Y, Nishiguchi K, Kawazoe S, et al. 2000. Enhancement of lipid peroxidation by chromium(IV) and chromium(V) is remarkable compared to that by chromium(VI) and is effectively suppressed by scavengers of reactive oxygen species. *J Health Sci* 46(2):75-80.

*Holmes AL, Wise SS, Sandwick SJ, et al. 2006. The clastogenic effects of chronic exposure to particulate and soluble Cr(VI) in human lung cells. *Mutat Res* 610(1-2):8-13.

Holmes AL, Wise SS, Shuler JH, et al. 2003. Comparative genotoxicity of two particulate hexavalent chromium compounds in human bronchial cells. *Toxicologist* 72(S-1):218.

Holmes AL, Wise SS, Xie H, et al. 2005. Lead ions do not cause human lung cells to escape chromate-induced cytotoxicity. *Toxicol Appl Pharmacol* 203(2):167-176.

Hooper JW, Fields BN. 1996. Role of the $\mu 1$ protein in reovirus stability and capacity to cause chromium release from host cells. *J Virol* 70(1):459-467.

+Hopkins LL. 1965. Distribution in the rat of physiological amounts of injected Cr^{51} (III) with time. *Am J Physiol* 209:731-735.

+Hopkins LL, Schwarz K. 1964. Chromium(III) binding to serum proteins, specifically siderophilin. *Biochim Biophys Acta* 90:484-491.

Hornig CJ, Lin SR. 1996. Determination of urinary zinc, chromium, and copper in steel production workers. *Biol Trace Elem Res* 55:307-314.

*Hornig D. 1975. Distribution of ascorbic acid, metabolites and analogues in man and animals. *Ann N Y Acad Sci* 258:103-118.

*Horowitz SB, Finley BL. 1993. Using human sweat to extract chromium from chromite ore processing residue: Applications to setting health-based cleanup levels. *J Toxicol Environ Health* 40:585-599.

Horowitz SB, Finley BL. 1994. Setting health-protective soil concentrations for dermal contact allergens: A proposed methodology. *Regul Toxicol Pharmacol* 19:31-47.

9. REFERENCES

- *HSDB. 2008. Chromium. Hazardous Substances Data Bank. National Library of Medicine. <http://toxnet.nlm.nih.gov>. June 28, 2008.
- Hu W, Feng Z, Tang M. 2004. Chromium(VI) enhances (+/-)-anti-7beta,8alpha-dihydroxy-9alpha,10alpha-epoxy-7,8,9,10-tetrahydrobenzo[a]pyrene-induced cytotoxicity and mutagenicity in mammalian cells through its inhibitory effect on nucleotide excision repair. *Biochemistry* 43(44):14282-14289.
- Huang Y, Chen C, Sheu J, et al. 1999. Lipid peroxidation in workers exposed to hexavalent chromium. *J Toxicol Environ Health, A* 56:235-247.
- *Hueper WC. 1955. Experimental studies in metal carcinogenesis. VII. Tissue reactions to parenterally introduced powdered metallic chromium and chromite ore. *J Natl Cancer Inst* 16:447-469.
- +*Hueper WC. 1958. Experimental studies in metal carcinogenesis. *Arch Ind Health* 18:284-291.
- Hueper WC. 1961. Environmental carcinogenesis and cancers. *Cancer Res* 21:842-857.
- *Hueper WC, Payne WW. 1959. Experimental cancers in rats produced by chromium compounds and their significance to industry and public health. *Ind Hyg J* 20:274-280.
- *Hueper WC, Payne WW. 1962. Experimental studies in metal carcinogenesis. X. Cancerigenic effects of chromite ore roast deposited in muscle tissue and pleural cavity of rats. *Arch Environ Health* 5:51-68.
- Hughes LS, Cass GR, Gone J, et al. 1998. Physical and chemical characterization of atmospheric ultrafine particles in the Los Angeles area. *Environ Sci Technol* 32(9):1153-1161.
- Hunt CD, Stoecker BJ. 1996. Deliberations and evaluations of the approaches, endpoints, and paradigms for boron, chromium, and fluoride dietary recommendations. *RDA Workshop: New approaches, endpoints and paradigms for RDAs of mineral elements*, 2441S-S2451.
- +Hunter WC, Roberts JM. 1932. Experimental study of the effects of potassium bichromate on the monkey's kidney. *Am J Pathol* 9:133-147.
- *Hurlbut CS, ed. 1971. *Dana's manual of mineralogy*. 18th ed. New York, NY: John Wiley and Sons, Inc., 346-347.
- *Husgafvel-Pursiainen K, Kalliomaki PL, Sorsa M. 1982. A chromosome study among stainless steel workers. *J Occup Med* 24:762-766.
- +*Huvinen M, Makitie A, Jarventaus H, et al. 2002b. Nasal cell micronuclei, cytology and clinical symptoms in stainless steel workers exposed to chromium. *Mutagenesis* 17(5):425-429.
- Huvinen M, Oksanen L, Kalliomaki K, et al. 1997. Estimation of individual dust exposure by magnetopneumography in stainless steel production. *Sci Total Environ* 199:133-139.
- +*Huvinen M, Uitti J, Oksa P, et al. 2002a. Respiratory health effects of long-term exposure to different chromium species in stainless steel production. *Occup Med (Lond)* 52(4):203-212.

9. REFERENCES

- +*Huvinen M, Uitti J, Zitting A, et al. 1996. Respiratory health of workers exposed to low levels of chromium in stainless steel production. *Occup Environ Med* 53:741-747.
- *Hyland JL, Snoots TR, Balthis WL. 1998. Sediment quality of estuaries in the southeastern U.S. *Environ Monit Assess* 51:331-343.
- +*Hyodo K, Suzuki S, Furuya N, et al. 1980. An analysis of chromium, copper, and zinc in organs of a chromate worker. *Int Arch Occup Environ Health* 46:141-150.
- *IARC. 1980. IARC monographs on the evaluation of the carcinogenic risk of chemicals to humans. Some metals and metallic compounds: Volume 23. Lyons, France: World Health Organization, 205-323.
- *IARC. 1986a. Selected methods of analysis: Some metals. In: O'Neill IK, Schuller P, Fishbein L, eds. Vol. 8: IARC Scientific Publications No. 71. Lyon, France: International Agency for Research on Cancer, World Health Organization 141-158; 291-317; 433-440.
- IARC. 1986b. Sources of exposure and biological effects of chromium. International Agency for Research on Cancer. *IARC Sci Publ.* (71):63-77.
- IARC. 1987. IARC monographs on the evaluation of the carcinogenic risk of chemicals to humans: Overall evaluations of carcinogenicity. Vol. 1 to 42: Supplement 7: An updating of IARC monographs. Lyons, France: International Agency for Research on Cancer, World Health Organization.
- *IARC. 1990. IARC monographs on the evaluation of carcinogenic risks to humans. Chromium, nickel and welding. Vol. 49. Lyons, France: International Agency for Research on Cancer, World Health Organization 49-256.
- *IARC. 1997. Vol 49. Chromium, nickel and welding. Summary of data reported and evaluation. International Agency for Research on Cancer. World Health Organization. <http://monographs.iarc.fr/ENG/Monographs/vol49/volume49.pdf>. May 02, 2008.
- *IARC. 2008. Agents reviewed by the IARC monographs: Volumes 1-99. Lyon, France: International Agency for Research on Cancer. <http://monographs.iarc.fr/ENG/Classification/index.php>. April 24, 2008.
- *Iarmarcovai G, Sari-Minodier I, Chaspoul F, et al. 2005. Risk assessment of welders using analysis of eight metals by ICP-MS in blood and urine and DNA damage evaluation by the comet and micronucleus assays; influence of XRCC1 and XRCC3 polymorphisms. *Mutagenesis* 20(6):425-432.
- *ICRP. 1994. Human respiratory tract model for radiological protection. Pergamon Press, Oxford: International Commission on Radiological Protection. ICRP publication 66.
- *ICSH. 1980. Recommended method for radioisotope red-cell survival studies. *Br J Haematol* 45(4):659-666.
- +*Iijima S, Matsumoto N, Lu C. 1983. Transfer of chromic chloride to embryonic mice and changes in the embryonic mouse neuroepithelium. *Toxicology* 26:257-265.
- Ikarashi Y, Ohno K, Tsuchiya T, et al. 1992. Differences of draining lymph node cell proliferation among mice, rats, and guinea pigs following exposure to metal allergens. *Toxicology* 76:283-292.

9. REFERENCES

- Ikarashi Y, Tsuchiya T, Nakamura A. 1992. Detection of contact sensitivity of metal salts using the murine local lymph node assay. *Toxicol Lett* 62:53-61.
- *IMC. 2007. Chromium. Industrial Minerals Corporation. <http://www.industrialmineralscorp.com.au/index.php>. May 21, 2008.
- Ingber A, Gammelgaard B, David M. 1998. Detergents and bleaches are sources of chromium contact dermatitis in Israel. *Contact Dermatitis* 38:101-104.
- *IOM. 2001. Chromium. Dietary reference intakes for vitamin A, vitamin K, arsenic, boron, chromium, copper, iodine, iron, manganese, molybdenum, nickel, silicon, vanadium, and zinc (2000). A Report of the Panel on Micronutrients, subcommittees on upper reference levels of nutrients and of interpretation and uses of dietary reference intakes, and the standing committee on the scientific evaluation of dietary reference intakes. Washington, DC: Food and Nutrition Board. Institute of Medicine. National Academy Press, 197-223.
- *IRIS. 2008. Chromium. Integrated Risk Information System. Washington, DC: U.S. Environmental Protection Agency. <http://www.epa.gov/iris/subst/index.html>. May 14, 2008.
- +*Iserson KV, Banner W, Froede RC, et al. 1983. Failure of dialysis therapy in potassium dichromate poisoning. *J Emerg Med* 1:143-149.
- *Ishikawa Y, Nakagawa K, Satoh Y, et al. 1994a. Characteristics of chromate workers' cancers, chromium lung deposition and precancerous bronchial lesions: An autopsy study. *Br J Cancer* 70(1):160-166.
- *Ishikawa Y, Nakagawa K, Satoh Y, et al. 1994b. "Hot spots" of chromium accumulation at bifurcations of chromate workers' bronchi. *Cancer Res* 54(9):2342-2346.
- Itoh M, Nakamura M, Suzuki T, et al. 1995. Mechanism of chromium(VI) toxicity in *Escherichia coli*: Is hydrogen peroxide essential in Cr(VI) toxicity? *J Biochem* 117:780-786.
- *Itoh S, Shimada H. 1996. Micronucleus induction by chromium and selenium, and suppression by metallothionein inducer. *Mutat Res* 367:233-236.
- *Itoh S, Shimada H. 1997. Clastogenicity and mutagenicity of hexavalent chromium in lacZ transgenic mice. *Toxicol Lett* 91:229-233.
- *Itoh S, Shimada H. 1998. Bone marrow and liver mutagenesis in lacZ transgenic mice treated with hexavalent chromium. *Mutat Res* 412:63-67.
- +*Ivankovic S, Preussmann R. 1975. Absence of toxic and carcinogenic effects after administration of high doses of chromic oxide pigment in subacute and long-term feeding experiments in rats. *Food Cosmet Toxicol* 13:347-351.
- *Iyengar V, Woittiez J. 1988. Trace elements in human clinical specimens: Evaluation of literature data to identify reference values. *Clin Chem* 34(3):474-481.
- Iyer VJ, Banerjee G, Govindram CB, et al. 2002. Role of different valence states of chromium in the elicitation of allergic contact dermatitis. *Contact Dermatitis* 47(6):357-360.

9. REFERENCES

- *Izzotti A, Bagnasco M, Camoirano A, et al. 1998. DNA fragmentation, DNA-protein crosslinks, ³²P postlabeled nucleotide modifications, and 8-hydroxy-2'-deoxyguanosine in the lung but not in the liver of rats receiving intratracheal instillations of chromium(VI). Chemoprevention by oral N-acetylcysteine. *Mutat Res* 400:233-244.
- Izzotti A, Cartiglia C, Balansky R, et al. 2002. Selective induction of gene expression in rat lung by hexavalent chromium. *Mol Carcinog* 35(2):75-84.
- *Jacquemet L, Sun Y, Hatfield J, et al. 2003. Characterization of chromodulin by x-ray absorption and electron paramagnetic resonance spectroscopies and magnetic susceptibility measurements. *J Am Chem Soc* 125:774-780.
- *James BR, Petura JC, Vitale RJ, et al. 1997. Oxidation-reduction chemistry of chromium: Relevance to the regulation and remediation of chromate-contaminated soils. *J Soil Contam* 6(6):569-580.
- Jannetto PJ, Antholine WE, Myers CR. 2001. Cytochrome b5 plays a key role in human microsomal chromium(VI) reduction. *Toxicology* 159:119-133.
- +*Jansen LH, Berrens L. 1968. Sensitization and partial desensitization of guinea pigs to trivalent and hexavalent chromium. *Dermatologica* 137:65-73.
- *Jardine PM, Fendorf SE, Mayes MA, et al. 1999. Fate and transport of hexavalent chromium in undisturbed heterogeneous soil. *Environ Sci Technol* 33(17):2939-2944.
- *Jeejeebhoy KN. 1999. The role of chromium in nutrition and therapeutics and as a potential toxin. *Nutr Rev* 57(11):329-335.
- *Jeejeebhoy KN, Chu RC, Marliss EB, et al. 1977. Chromium deficiency, glucose intolerance, and neuropathy reversed by chromium supplementation in a patient receiving long-term total parenteral nutrition. *Am J Clin Nutr* 30:531-538.
- Jeng HA, Swanson J. 2006. Toxicity of metal oxide nanoparticles in mammalian cells. *J Environ Sci Health Part A* 41:2699-2711.
- *Jennette KW. 1982. Microsomal reduction of the carcinogen chromate produced chromium(V). *J Am Chem Soc* 104:874-875.
- *Jervis RE, Landsberger S, Aufreiter S, et al. 1983. Trace elements in wet atmospheric deposition: Application and comparison of PIXE, INAA, and graphite-furnace AAS techniques. *Int J Environ Anal Chem* 15:89-106.
- *Johanson CE. 1980. Permeability and vascularity of the developing brain: Cerebellum vs cerebral cortex. *Brain Res* 190:3-16.
- Johansson A, Curstedt T, Jarstrand C, et al. 1992. Alveolar macrophages and lung lesions after combined exposure to nickel, cobalt, and trivalent chromium. *Environ Health Perspect* 97:215-219.
- +*Johansson A, Robertson B, Curstedt, et al. 1986a. Rabbit lung after inhalation of hexa- and trivalent chromium. *Environ Res* 41:110-119.

9. REFERENCES

- +*Johansson A, Wiernik A, Jarstrand C, et al. 1986b. Rabbit alveolar macrophages after inhalation of hexa- and trivalent chromium. *Environ Res* 39:372-385.
- *Johnson J, Schewel L, Graedel TE. 2006. The contemporary anthropogenic chromium cycle. *Environ Sci Technol* 40:7060-7069.
- Joudah L, Moghaddas S, Bose RN. 2002. DNA oxidation by peroxo-chromium(v) species: Oxidation of guanosine to guanidinohydantoin. *Chem Commun* :1742-1743.
- +*Junaid M, Murthy RC, Saxena DK. 1996a. Embryo- and fetotoxicity of chromium in pregestationally exposed mice. *Bull Environ Contam Toxicol* 57:327-334.
- +*Junaid M, Murthy RC, Saxena DK. 1996b. Embryotoxicity of orally administered chromium in mice: Exposure during the period of organogenesis. *Toxicol Lett* 84:143-148.
- +*Kaaber K, Veien NK. 1977. The significance of chromate ingestion in patients allergic to chromate. *Acta Derm Venereol* 57:321-323.
- Kaats GR, Blum K, Fisher JA, et al. 1996. Effects of chromium picolinate supplementation on body composition: A randomized double-masked placebo-controlled study. *Curr Ther Res* 57:747-756.
- *Kaats GR, Wise JA, Blum K, et al. 1992. The short-term therapeutic efficacy of beating obesity with a plan of improved nutrition and moderate calorie restriction. *Curr Ther Res* 51:261-274.
- Kaczmarek M, Timofeeva OA, Karaczyn A, et al. 2007. The role of ascorbate in the modulation of HIF-1 α protein and HIF-dependent transcription by chromium(VI) and nickel(II). *Free Radic Biol Med* 42(8):1246-1257.
- Kadiiska MB, Morrow JD, Awad JA, et al. 1998. Identification of free radical formation and F₂-isopropanes in vivo by acute Cr(VI) poisoning. *Chem Res Toxicol* 11:1516-1520.
- Kadiiska MB, Xiang Q-H, Mason RP. 1994. In vivo free radical generation by chromium(VI): An electron spin resonance spin-trapping investigation. *Chem Res Toxicol* 7:800-805.
- +*Kalahasthi R, Rao RHR, Krishna murthy RB, et al. 2007. Effect of chromium (VI) exposure on serum amylase activity in chromium plating workers. *Environ Sci Indian J* 2(1):1-6.
- Kalahasthi RB, Rao RH, Murthy RB, et al. 2006. Effect of chromium(VI) on the status of plasma lipid peroxidation and erythrocyte antioxidant enzymes in chromium plating workers. *Chem Biol Interact* 164(3):192-199.
- +Kalliomaki PL, Aitio A, Hyvarinen HK, et al. 1986. Lung clearance, transportation, and excretion of metals in rats after intratracheal instillation of activated welding fumes. In: Stern RM, ed. *International conference on health hazards and biological effects of welding fumes and gases*, International Congress Series Vol. 676. New York, NY: Excerpta Medica, Elsevier Science Publ. Co., 345-348.
- Kaltreider RC, Pesce CA, Ihnat MA, et al. 1999. Differential effects of arsenic(III) and chromium(IV) on nuclear transcription factor binding. *Mol Carcinog* 25:219-229.
- Kamaludeen SPB, Megharaj M, Juhasz AL, et al. 2003. Chromium-microorganism interactions in soils: Remediation implications. *Rev Environ Contam Toxicol* 178:93-164.

9. REFERENCES

- Kamath SM, Stoecker BJ, Davis-Whitenack ML. 1997. Absorption, retention and urinary excretion of chromium-51 in rats pretreated with indomethacin and dosed with dimethylprostaglandin E₂, misoprostal or prostacyclin. *J Nutr* 127:478-482.
- Kamburova M. 1997. Neotetrazolium chloride - A new analytical reagent for determination of chromium. *Anal Lett* 30:305-316.
- *Kanematsu N, Hara M, Kada T. 1980. REC assay and mutagenicity studies on metal compounds. *Mutat Res* 77:109-116.
- +*Kanojia RK, Junaid M, Murthy RC. 1996. Chromium induced teratogenicity in female rat. *Toxicol Lett* 89:207-213.
- +*Kanojia RK, Junaid M, Murthy RC. 1998. Embryo and fetotoxicity of hexavalent chromium: A long-term study. *Toxicol Lett* 95:165-172.
- +*Kaplan I, Zeligman I. 1962. Occupational dermatitis of railroad workers. *Arch Dermatol* 85:135-142.
- +*Kargacin B, Squibb KS, Cosentino S, et al. 1993. Comparison of the uptake and distribution of chromate in rats and mice. *Biol Trace Elem Res* 36:307-318.
- Karstadt M. 1998. Availability of epidemiologic data for chemicals known to cause cancer in animals: An update. *Am J Ind Med* 34:519-525.
- Kasprzak KS. 1991. The role of oxidative damage in metal carcinogenicity. *Chem Res Toxicol* 4:604-615.
- Katabami M, Dosaka-Akita H, Mishina T, et al. 2000. Frequent cyclin D1 expression in chromate-induced lung cancers. *Hum Pathol* 31(8):973-979.
- Katsarou A, Baxevanis C, Armenaka M, et al. 1997. Study of persistence and loss of patch test reactions to dichromate and cobalt. *Contact Dermatitis* 36:87-90.
- Katsiki M, Trougakos IP, Chondrogianni N, et al. 2004. Alterations of senescence biomarkers in human cells by exposure to CrVI in vivo and in vitro. *Exp Gerontol* 39(7):1079-1087.
- Katz AJ. 1998. Modulation by temperature of the genotoxic potency of cisplatin on *Drosophila* wing spot assay. *Teratog Carcinog Mutagen* 18:93-100.
- Katz AJ, Chiu A, Beaubier J, et al. 2001. Combining *Drosophila melanogaster* somatic-mutation-recombination and electron-spin-resonance-spectroscopy data to interpret epidemiologic observations on chromium carcinogenicity. *Mol Cell Biochem* 222(1-2):61-68.
- Katz SA. 1991. The analytical biochemistry of chromium. *Environ Health Perspect* 92:13-16.
- Katz SA, Salem H. 1993. The toxicology of chromium with respect to its chemical speciation: A review. *J Appl Toxicol* 13:217-224.
- +*Kaufman DB, DiNicola W, McIntosh R. 1970. Acute potassium dichromate poisoning: Treated by peritoneal dialysis. *Am J Dis Child* 119:374-376.

9. REFERENCES

- Kawanishi S, Inoue S, Yamamoto K. 1989. Hydroxyl radical and singlet oxygen production and DNA damage induced by carcinogenic metal compounds and hydrogen peroxide. *Biol Trace Elem Res* 21:367-372.
- Kawanishi S, Inoue S, Yamamoto K. 1994. Active oxygen species in DNA damage induced by carcinogenic metal compounds. *Environ Health Perspect* 102 Suppl 3:17-20.
- *Kaya B, Creus A, Velazquez A, et al. 2002. Genotoxicity is modulated by ascorbic acid studies using the wing spot test in *Drosophila*. *Mutat Res* 520:93-101.
- Kegley EB, Spears JW, Brown TT. 1996. Immune response and disease resistance of calves fed chromium nicotinic acid complex or chromium chloride. *J Dairy Sci* 79:1278-1283.
- Kegley EB, Spears JW, Eisemann JH. 1997. Performance and glucose metabolism in calves fed a chromium-nicotinic acid complex or chromium chloride. *J Dairy Sci* 80:1744-1750.
- Keith RL, Gandolfi AJ, McIntyre LC, et al. 1999. Analysis of heavy metal deposition in renal tissue by sectional mapping using PIXE. *Nucl Instr Meth Phys Res B* 149:168-175.
- +*Kelly WF, Ackrill P, Day JP, et al. 1982. Cutaneous absorption of trivalent chromium: Tissue levels and treatment by exchange transfusion. *Br J Ind Med* 39:397-400.
- +*Kerger BD, Finley BL, Corbett GE, et al. 1997. Ingestion of chromium(VI) in drinking water by human volunteers: Absorption, distribution, and excretion of single and repeated doses. *J Toxicol Environ Health* 50:67-95.
- +*Kerger BD, Paustenbach DJ, Corbett GE, et al. 1996a. Absorption and elimination of trivalent and hexavalent chromium in humans following ingestion of a bolus dose in drinking water. *Toxicol Appl Pharmacol* 141:145-158.
- *Kerger BD, Richter RO, Chute SM, et al. 1996b. Refined exposure assessment for ingestion of tapwater contaminated with hexavalent chromium: Consideration of exogenous and endogenous reducing agents. *J Expo Anal Environ Epidemiol* 6(2):163-179.
- +*Keskinen H, Kalliomaki P, Alanko K. 1980. Occupational asthma due to stainless steel welding fumes. *Clin Allergy* 10:151-159.
- Khengarot BS, Rathore RS, Tripathi DM. 1999. Effects of chromium on humoral and cell-mediated immune responses and host resistance to disease in a freshwater catfish, *Saccobranhus fossilis* (bloch). *Ecotoxicol Environ Saf* 43:11-20.
- Kiilunen M. 1997. Occupational exposure to chromium and nickel in the 1980s in Finland. *Sci Total Environ* 199:91-101.
- *Kiilunen M, Jarvisalo J, Mäkitie O, et al. 1987. Analysis, storage stability and reference values for urinary chromium and nickel. *Int Arch Occup Environ Health* 59:43-56.
- +*Kiilunen M, Kivisto H, Ala-Laurila P, et al. 1983. Exceptional pharmacokinetics of trivalent chromium during occupational exposure to chromium lignosulfonate dust. *Scand J Work Environ Health* 9:265-271.

9. REFERENCES

- *Kilburn KH, Warshaw R, Boylen CT, et al. 1990. Cross-shift and chronic effects of stainless-steel welding related to internal dosimetry of chromium and nickel. *Am J Ind Med* 17:607-615.
- Kim E, Na KJ. 1990. Acute toxic effect of sodium dichromate on metabolism. *Arch Toxicol* 64:644-649.
- *Kim G, Yurkow EJ. 1996. Chromium induces a persistent activation of mitogen-activated protein kinases by a redox-sensitive mechanism in H4 rat hepatoma cells. *Cancer Res* 56:2045-2051.
- +*Kim HY, Lee SB, Jang BS. 2004. Subchronic inhalation toxicity of soluble hexavalent chromium trioxide in rats. *Arch Toxicol* 78:363-368.
- Kim Y, An S, Oyama T, et al. 2003. Oxidative stress, hogg1 expression and NF-kappaB activity in cells exposure to low level chromium. *J Occup Health* 45(5):271-277.
- *Kimberly MM, Paschal DC. 1985. Screening for selected toxic elements in urine by sequential-scanning inductively-coupled plasma atomic emission spectrometry. *Anal Chim Acta* 174:203-210.
- *Kimbrough DE, Cohen Y, Winer AM, et al. 1999. A critical assessment of chromium in the environment. *Crit Rev Environ Sci* 29(1):1-46.
- *King LD. 1988. Retention of metals by several soils of the southeastern United States. *J Environ Qual* 17(2):239-246.
- Kiran SB, Irene D, Devi KR. 1999. Mutagenicity of chromium in bone marrow cells of mice. *Trends Life Sci* 14(2):93-96.
- Kirkpatrick DC, Coffin DE. 1975. Trace metal content of chicken eggs. *J Food Sci Agric* 26:99-103.
- *Kirpnick-Sobol Z, Reliene R, Schiestl RH. 2006. Carcinogenic Cr(VI) and the nutritional supplement Cr(III) induce DNA deletions in yeast and mice. *Cancer Res* 66(7):3480-3484.
- Kist AA, Zhuk LI, Danilova EA, et al. 1998. Mapping of ecologically unfavorable territories based on human hair composition. *Biol Trace Elem Res* 64:1-12.
- Kitagawa S, Seki H, Kametani F, et al. 1982. Uptake of hexavalent chromium by bovine erythrocytes and its interaction with cytoplasmic components; the role of glutathione. *Chem Biol Interact* 40:265-274.
- +*Kitamura F, Yokoyama K, Araki S, et al. 2003. Increase of olfactory threshold in plating factory workers exposed to chromium in Korea. *Ind Health* 41(3):279-285.
- Kitchalong L, Fernandez JM, Bunting LD, et al. 1995. Influence of chromium tipicolinate on glucose metabolism and nutrient partitioning in growing lambs. *J Anim Sci* 73:2694-2705.
- *Klein LA, Lang M, Nash N, et al. 1974. Sources of metals in New York City wastewater. *J Water Pollut Control Fed* 46(12):2653-2662.
- Klein RM, Dahmen M, Putz H, et al. 1998. Workplace exposure during laser machining. *J Laser Appl* 10(3):99-105.

9. REFERENCES

- +*Kleiner AM, Stolbun BM, Likhacheva YI, et al. 1970. [Indices of the functional status of the myocardium and hemodynamics in chronic occupational poisoning with chromium compounds.] *Gig Tr Prof Zabol* 14:7-10. (Russian)
- +*Kleinfeld M, Rosso A. 1965. Ulcerations of the nasal septum due to inhalation of chromic acid mist. *Ind Med Surg* 24:242-243.
- Knauf W. 1993. Magenlymphom nach exposition gegenüber chrom und nickel? *Dtsch Med Wochenschr* 118(12):438.
- Knudsen I. 1980. The mammalian spot test and its use for the testing of potential carcinogenicity of welding fume particles and hexavalent chromium. *Acta Pharmacol Toxicol* 47:66-70.
- Knudsen LE, Boisen T, Christensen JM, et al. 1992. Biomonitoring of genotoxic exposure among stainless steel welders. *Mutat Res* 279:129-143.
- Knutsson A, Damber L, Jarvholm B. 2000. Cancers in concrete workers: Results of a cohort study of 33,688 workers. *Occup Environ Med* 57:264-267.
- +*Kollmeier H, Seemann J, Rothe G, et al. 1990. Age, sex, and region adjusted concentrations of chromium and nickel in lung tissue. *Br J Ind Med* 47:682-687.
- *Komori K, Toda K, Ohtake H. 1990a. Effects of oxygen stress on chromate reduction in *Enterobacter cloacae* strain HO1. *J Ferment Bioeng* 69(1):67-69.
- *Komori M, Nishio K, Kitada M, et al. 1990b. Fetus-specific expression of a form of cytochrome P-450 in human liver. *Biochemistry* 29:4430-4433.
- Kondo K, Takahashi Y, Hirose Y, et al. 2006. The reduced expression and aberrant methylation of p16INK4a in chromate workers with lung cancer. *Lung Cancer* 53(3):295-302.
- *Korallus U. 1986a. Biological activity of chromium(VI) - against chromium(III) compounds: New aspects of biological monitoring. In: Serrone DM, ed. *Chromium symposium 1986: An update*. Pittsburgh, PA: Industrial Health Foundation Inc., 210-230.
- *Korallus U. 1986b. Chromium compounds: Occupational health, toxicological and biological monitoring aspects. *Toxicol Environ Chem* 12:47-59.
- +*Korallus U, Ehrlicher H, Wustefeld E. 1974b. [Trivalent chromium compounds. Results of a study in occupational medicine. Part 2. Disease status analysis.] *Arb Soz Prev* 9:76-79. (German)
- Korallus U, Ehrlicher H, Wustefeld E. 1974c. [Trivalent chromium compounds. Results of an industrial medicine study. Part 3: Clinical studies.] *Arb Soz Prev* 9:248-252. (German)
- *Korallus U, Harzdorf C, Lewalter J. 1984. Experimental bases for ascorbic acid therapy of poisoning by hexavalent chromium compounds. *Int Arch Occup Environ Health* 53:247-256.
- +*Korallus U, Ehrlicher H, Wustefeld E, et al. 1974a. [Trivalent chromium compounds - results of a study in occupational medicine.] *Arb Soz Prev* 9:51-54. (German)

9. REFERENCES

- +*Korallus U, Lange H, Neiss A, et al. 1982. Relationships between hygienic measures and the bronchial carcinoma mortality in the chromate producing industry. *Arb Soz Prev* 17:159-167.
- *Kornhauser C, Wrobel K, Wrobel K, et al. 2002. Possible adverse effect of chromium in occupational exposure of tannery workers. *Ind Health* 40(2):207-213.
- Kortenkamp A. 1996. Pharmacokinetic modeling in chromium risk assessment: A prediction of chromium (III) accumulation in humans from chromium dietary supplements. *Human Exp Toxicol* 15(7):601-602.
- Kortenkamp A, O'Brien P. 1991. Studies of the binding of chromium(III) complexes to phosphate groups of adenosine triphosphate. *Carcinogenesis* 12:921-926.
- Kortenkamp A, Casadevall M, Faux SP, et al. 1996a. A role for molecular oxygen in the formation of DNA damage during the reduction of the carcinogen chromium(VI) by glutathione. *Arch Biochem Biophys* 329(2):199-207.
- *Kortenkamp A, Casadevall M, Fresco PDC. 1996b. The reductive conversion of the carcinogen chromium(VI) and its role in the formation of DNA lesions. *Ann Clin Lab Sci* 26(2):160-175.
- Kortenkamp A, Curran B, O'Brien P. 1992. Defining conditions for the efficient in vitro cross-linking of proteins to DNA by chromium(III) compounds. *Carcinogenesis* 13(2):307-308.
- *Koshi K. 1979. Effects of fume particles from stainless steel welding on sister chromatid exchanges and chromosome aberrations in cultured Chinese hamster cells. *Ind Health* 17:39-49.
- *Koshi K, Iwasaki K. 1983. Solubility of low-solubility chromates and their clastogenic activity in cultured cells. *Ind Health* 21:57-65.
- Koshi K, Serita F, Sawatari K, et al. 1987. Cytogenetic analysis of bone marrow cells and peripheral blood lymphocytes from rats exposed to chromium fumes by inhalation. *Mutat Res* 181:365.
- *Koshi K, Yagami T, Nakanishi Y. 1984. Cytogenetic analysis of peripheral blood lymphocytes from stainless steel welders. *Ind Health* 22:305-318.
- *Kowalski LA, Tsang SS, Davison AJ. 1996. Arsenic and chromium enhance transformation of bovine papillomavirus DNA-transfected C3H/10T1/2 cells. *Cancer Lett* 103:65-69.
- Kozlowski CA. 2007. Kinetics of chromium(VI) transport from mineral acids across cellulose triacetate (CTA) plasticized membranes immobilized by tri-n-octylamine. *Ind Eng Chem Res* 46:5420-5428.
- Kozuh N, Stupar J, Gorenc B. 2000. Reduction and oxidation processes of chromium in soils. *Environ Sci Technol* 34:112-119.
- Kreider RB. 1999. Dietary supplements and the promotion of muscle growth with resistance exercise. *Sports Med* 27(2):97-110.
- Krepkiy D, Antholine WE, Myers C, et al. 2001. Model reactions of Cr(VI) with DNA mediated by thiol species. *Mol Cell Biol* 22:213-219.

9. REFERENCES

- *Krishnan K, Andersen ME. 1994. Physiologically-based pharmacokinetic modeling in toxicology. In: Hayes W, ed. Principles and methods of toxicology. 3rd edition, New York, NY: Raven Press, Ltd, 149-188.
- *Krishnan K, Andersen ME, Clewell HJ, et al. 1994. Physiologically-based pharmacokinetic modeling of chemical mixtures. In: Yang RSA, ed. Toxicology of chemical mixtures. New York, NY: Academic Press, 399-437.
- *Krull IS, Panaro KW, Gershman LL. 1983. Trace analysis and speciation for Cr(VI) and Cr(III) via HPLC-direct current plasma emission spectroscopy (HPLC-DCP). J Chromatogr Sci 21:460-472.
- Kucharz EJ, Sierakowski SJ. 1987. Immunotoxicity of chromium compounds: Effect of sodium dichromate on the T cell activation *in vitro*. Arch Gig Rada Toksikol 38:239-243.
- +*Kumar A, Rana SVS. 1982. Lipid accumulation in chromium-poisoned rats. Int J Tissue React 4(4):291-295.
- +*Kumar A, Rana SVS. 1984. Enzymological effects of hexavalent chromium in the rat kidney. Int J Tissue React 6(2):135-139.
- *Kumar A, Rana SVS, Prakash R. 1985. Dysenzymuria induced by hexavalent chromium. Int J Tissue React 7(4):333-338.
- Kumar S, Mehdi F, Raza T. 2007. Genotoxicity of chromium in exposed human subjects suffering from lung problems [Abstract]. Toxicol Lett 172:S171-S172.
- *Kumar S, Sathwara NG, Gautam AK, et al. 2005. Semen quality of industrial workers occupationally exposed to chromium. J Occup Health 47(5):424-430.
- *Kumpulainen J. 1984. Chromium. In: Verduyck A, ed. Techniques and instrumentation in analytical chemistry. Vol. 4. Evaluation of analytical methods in biological systems. Part B: Hazardous metals in human toxicology. Amsterdam, The Netherlands: Elsevier Science Publishers, 253-277.
- *Kumpulainen JT, Wolf WR, Veillon C, et al. 1979. Determination of chromium in selected United States diets. J Agric Food Chem 27(3):490-494.
- Kundu R, Lakshmi R, Mansuri AP. 1995. Effects of Cr(VI) on ATPases in the brain and muscle of mudskipper, *Boleophthalmus dentates*. Bull Environ Contam Toxicol 55:723-729.
- Kuo CY, Wong RH, Lin JY, et al. 2006. Accumulation of chromium and nickel metals in lung tumors from lung cancer patients in Taiwan. J Toxicol Environ Health A 69(14):1337-1344.
- +*Kuo HW, Wu ML. 2002. Effects of chromic acid exposure on immunological parameters among electroplating workers. Int Arch Occup Environ Health 75(3):186-190.
- Kuo HW, Chang SF, Wu KY, et al. 2003. Chromium(VI) induced oxidative damage to DNA: Increase of urinary 8-hydroxydeoxyguanosine concentrations (8-OHdG) among electroplating workers. Occup Environ Med 60(8):590-594.
- +*Kuo HW, Lai JS, Lin TI. 1997a. Nasal septum lesions and lung function in workers exposed to chromic acid in electroplating factories. Int Arch Occup Environ Health 70:272-276.

9. REFERENCES

- Kuo HW, Lai JS, Lin TI. 1997b. Concentration and size distribution of airborne hexavalent chromium in electroplating factories. *Am Ind Hyg Assoc J* 58:29-32.
- Kurokawa Y, Matsushima M, Imazaawa T, et al. 1985. Promoting effect of metal compounds on rat renal tumorigenesis. *J Am Coll Toxicol* 4:321-331.
- +*Kuykendall JR, Kerger BD, Jarvi EJ, et al. 1996. Measurement of DNA-protein cross-links in human leukocytes following acute ingestion of chromium in drinking water. *Carcinogenesis* 17(9):1971-1977.
- +Laborda R, Diaz-Mayans J, Nunez A. 1986. Nephrotoxic and hepatotoxic effects of chromium compound in rats. *Bull Environ Contam Toxicol* 36:332-336.
- *Lai JS, Kuo HW, Liao FC, et al. 1998. Sister chromatid exchange induced by chromium compounds in human lymphocytes. *Int Arch Occup Environ Health* 71:550-5532.
- Lalaoui A, Henderson C, Kupper C, et al. 2007. The interaction of chromium (VI) with macrophages: Depletion of glutathione and inhibition of glutathione reductase. *Toxicology* 236:76-81.
- Lamson DS, Plaza SM. 2002. The safety and efficacy of high-dose chromium. *Altern Med Rev* 7(3):218-235.
- *Landsberger S, Jervis RE, Kajrys G, et al. 1983. Characterization of trace elemental pollutants in urban snow using proton induced X-ray emission and instrumental neutron activation analysis. *Int J Environ Anal Chem* 16:95-130.
- Lane BP, Mass MJ. 1977. Carcinogenicity and cocarcinogenicity of chromium carbonyl in heterotopic tracheal grafts. *Cancer Res* 37:1476-1479.
- +*Langård S. 1980. A survey of respiratory symptoms and lung function in ferrochromium and ferrosilicon workers. *Int Arch Occup Environ Health* 46:1-9.
- Langård S. 1982. Absorption, transport and excretion of chromium in man and animals. In: Langard S, ed. *Biological and environmental aspects of chromium*. Elsevier Biomedical Press, 149-169.
- Langård S. 1988. Chromium carcinogenicity: A review of experimental animal data. *Sci Total Environ* 71:341-350.
- Langård S. 1990. One hundred years of chromium and cancer: A review of epidemiological evidence and selected case reports. *Am J Ind Med* 17:189-215.
- Langård S. 1993. Role of chemical species and exposure characteristics in cancer among persons occupationally exposed to chromium compounds. *Scand J Work Environ Health* 19(Suppl 1):1:81-89.
- +*Langård S, Norseth T. 1975. A cohort study of bronchial carcinomas in workers producing chromate pigments. *Br J Ind Med* 32:62-65.
- Langård S, Norseth T. 1979. Chromium. In: Friberg L, Nordberg GF, Vouk VB, eds. *Handbook on the toxicology of metals*. Amsterdam: Elsevier/North-Holland Biomedical Press, 383-397.

9. REFERENCES

Langård S, Norseth T. 1986. Chromium. In: Friberg L, Nordberg GF, Vouk VB, eds. Handbook on the toxicology of metals. Vol. II. Specific metals. 2nd ed. Amsterdam: Elsevier Science Publishers B.V., 185-210.

+*Langård S, Vigander T. 1983. Occurrence of lung cancer in workers in producing chromium pigments. *Br J Ind Med* 40:71-74.

+*Langård S, Andersen A, Gylseth B. 1980. Incidence of cancer among ferrochromium and ferrosilicon workers. *Br J Ind Med* 37:114-120.

+*Langård S, Andersen A, Ravnstad J. 1990. Incidence of cancer among ferrochromium and ferrosilicon workers: An extended observation period. *Br J Ind Med* 47:14-19.

+*Langård S, Gundersen N, Tsalev DL, et al. 1978. Whole blood chromium level and chromium excretion in the rat after zinc chromate inhalation. *Acta Pharmacol Toxicol* 42:142-149.

Lange JH. 2003. Cement: A common cancer agent? (Comment on: *Toxicol Ind Health* 18:321-331). *Toxicol Ind Health* 19:183.

Lansdown ABG. 1995. Physiological and toxicological changes in the skin resulting from the action and interaction of metal ions. *Crit Rev Toxicol* 25(5):397-462.

Larsen EH, Rasmussen L. 1991. Chromium, lead and cadmium in Danish milk products and cheese determined by Zeeman graphite furnace atomic adsorption spectrometry after direct injection or pressurized ahsing. *Z Lebensm Unters Forsch* 192:136-141.

*Laskin S, Kuschner M, Drew RT. 1970. Studies in pulmonary carcinogenesis. In: Hanna MG, Nettesheim P, Gilbert JR, eds. Inhalation carcinogenesis. U.S. Atomic Energy Commission symposium series no. 18. Oak Ridge, TN: Division of Technical Information Extension, U.S. Atomic Energy Commission, 321-351.

Lauwerys RR. 1989. Metals — Epidemiological and experimental evidence for carcinogenicity. *Arch Toxicol Suppl* 13:21-27.

*LaVelle JM. 1986a. Chromium(VI) comutagenesis: Characterization of the interaction of K_2CrO_4 with azide. *Environ Mutagen* 87:717-725.

*LaVelle JM. 1986b. Potassium chromate potentiates frameshift mutagenesis in *E. coli* and *S. typhimurium*. *Mutat Res* 171:1-10.

Lay PA, Levina A. 1998. Activation of molecular oxygen during the reactions of chromium(VI/V/IV) with biological reductants: Implications for chromium-induced genotoxicities. *J Am Chem Soc* 120:6704-6714.

*Le Curieux F, Marzin D, Erb F. 1992. Genotoxic activity of three carcinogens in peripheral blood erythrocytes of the newt *Pleurodeles waltl*. *Mutat Res* 283:157-160.

Le Curieux F, Marzin D, Erb F. 1993. Comparison of three short-term assays: Results on seven chemicals; Potential contribution to the control of water genotoxicity. *Mutat Res* 319:223-236.

9. REFERENCES

- Lee BG, Luoma SN. 1998. Influence of microalgal biomass on absorption efficiency of Cd, Cr, and Zn by two bivalves from San Francisco Bay. *Limnol Oceanogr* 43(7):1455-1466.
- Lee CR, Yoo CI, Kang SK. 2002. Nasal septum perforation of welders. *Ind Health* 40(3):286-289.
- +*Lee HS, Goh CL. 1988. Occupational dermatosis among chrome platers. *Contact Dermatitis* 18:89-93.
- +*Lee KP, Ulrich CE, Geil RG, et al. 1989. Inhalation toxicity of chromium dioxide dust to rats after two years exposure. *Sci Total Environ* 86:83-108.
- *Lee NA, Reasner CA. 1994. Beneficial effect of chromium supplementation on serum triglyceride levels in NIDDM. *Diabetes Care* 17(12):1449-1452.
- Lee SH, Brennan FR, Jacobs JJ, et al. 1997. Human monocyte/macrophage response to cobalt-chromium corrosion products and titanium particles in patients with total joint replacements. *J Orthop Res* 15:40-49.
- Lee TY, Lam TH. 1991. Contact dermatitis due a Chinese herbal orthropaedic tincture, Zheng Gu Shui. *Contact Dermatitis* 24:64-65.
- *Leeder JS, Kearns GL. 1997. Pharmacogenetics in pediatrics: Implications for practice. *Pediat Clin North Am* 44:55-77.
- Lees PSJ. 1991. Chromium and disease: Review of epidemiological studies with particular reference to etiologic information provided by measures of exposure. *Environ Health Perspect* 92:93-104.
- *Leikin JB, Paloucek FP, eds. 2002. In: Leikin and Paloucek's poisoning and toxicology handbook. 3rd ed. Hudson, OH: Lexi-Comp, Inc., 372-379.
- Lendinez E, Lopez MC, Cabrera C, et al. 1998. Determination of chromium in wine and other alcoholic beverages consumed in Spain by electrothermal atomic absorption spectrometry. *J Aoac Int* 8(5):1043-1047.
- Leónard A, Bernard A. 1993. Biomonitoring exposure to metal compounds with carcinogenic properties. *Environ Health Perspect* 101(3):127-133.
- Leónard A, Lauwerys RR. 1980. Carcinogenicity and mutagenicity of chromium. *Mutat Res* 76:227-239.
- Leonard S, Wang S, Zang L, et al. 2000. Role of molecular oxygen in the generation of hydroxyl and superoxide anion radicals during enzymatic Cr(VI) reduction and its implication to Cr(VI)-induced carcinogenesis. *J Environ Pathol Toxicol Oncol* 19(1-2):49-60.
- +*Leroyer C, Dewitte JD, Bassanets A, et al. 1998. Occupational asthma due to chromium. *Respiration* 65:403-405.
- +*Letterer E. 1939. [Examination of a chromium-silicotic lung.] *Arch Gewerbepatnol Gewerbe Hyg* 9:498-508. [Abstract] *J Ind Hyg Toxicol* 21:215-216. (German)
- *Leung H. 1993. Physiologically-based pharmacokinetic modeling. In: Ballantine B, Marro T, Turner T, eds. *General and applied toxicology*. Vol. I. New York, NY: Stockton Press, 153-164.

9. REFERENCES

- +*Levin HM, Brunner MJ, Rattner H. 1959. Lithographer's dermatitis. *J Am Med Assoc* 169:566-569.
- *Levina A, Lay PA. 2005. Mechanistic studies of relevance to the biological activities of chromium. *Coord Chem Rev* 249(3-4):281-298.
- *Levine RA, Streeten DHP, Doisy RJ, et al. 1968. Effects of oral chromium supplementation on the glucose tolerance of elderly human subjects. *Metabolism* 17:114-125.
- Levis AG, Bianchi V. 1982. Mutagenic and cytogenetic effects of chromium compounds. In: Lang S, ed. *Biological and environmental aspects of chromium*. Amsterdam: Elsevier Biomedical Press, 171-208.
- Levis AG, Buttignol M. 1977. Effects of potassium dichromate on DNA synthesis in hamster fibroblasts. *Br J Cancer* 35:496-499.
- *Levis AG, Majone F. 1979. Cytotoxic and clastogenic effects of soluble chromium compounds on mammalian cell cultures. *Br J Cancer* 40:523-533.
- Levis AG, Buttignol M, Bianchi V, et al. 1978. Effects of potassium dichromate on nucleic acid and protein syntheses and on precursor uptake in BHK fibroblasts. *Cancer Res* 38:110-116.
- Levy LS, Venitt S. 1975. Carcinogenic and mutagenic activity of chromium containing materials. *Br J Cancer* 32:254-255.
- +*Levy LS, Martin PA, Bidstrup PL. 1986. Investigation of the potential carcinogenicity of a range of chromium containing materials on rat lung. *Br J Ind Med* 43:243-256.
- *Lewalter J, Korallus U, Harzdorf C, et al. 1985. Chromium bond detection in isolated erythrocytes: A new principle of biological monitoring of exposure to hexavalent chromium. *Int Arch Occup Environ Health* 55:305-318.
- *Li H, Chen Q, Li S, et al. 2001. Effect of Cr(VI) exposure on sperm quality: Human and animal studies. *Ann Occup Hyg* 45(7):505-511.
- Lide DR. 1994. *CRC handbook of chemistry and physics*. 74th ed. Boca Raton, FL: CRC Press.
- *Lide DR. 1998. Chromium. In: Lide DR, ed. *CRC handbook of chemistry and physics*. 79th ed. Boca Raton, FL: CRC Press, 4-8.
- +*Liden S, Lundberg E. 1979. Penetration of chromium in intact human skin in vivo. *J Invest Dermatol* 72:42-45.
- *Lieber M, Perlmutter NM, Frauenthal HL. 1964. Cadmium and hexavalent chromium in Nassau County groundwater. *J Am Water Works Assoc* 56:739-747.
- +*Lieberman H. 1941. Chrome ulcerations of the nose and throat. *New Engl J Med* 225:132-133.
- Liggins J, Furth AJ. 1995. Fructation induced cross-linking of β -lactoglobulin and lysozyme. *Biochem Soc Trans* 23:240S-241S.

9. REFERENCES

- Lilien DL, Spivak JL, Goldman ID. 1970. Chromate transport in human leukocytes. *J Clin Invest* 49:1551-1557.
- +*Lim TH, Sargent T, Kusubov N. 1983. Kinetics of trace element chromium(III) in the human body. *Am J Physiol* 244(4):445-454.
- *Lin KY, Chang BV, Wang Y-S. 1996. Mobility of copper, zinc and chromium with municipal solid waste leachate in soils. *Proc Natl Sci Coun Repub China B* 20(1):19-25.
- *Lin X, Zhuang Z, Costa M. 1992. Analysis of residual amino acid-DNA crosslinks induced in intact cells by nickel and chromium compounds. *Carcinogenesis* 3(10):1763-1768.
- +*Lindberg E, Hedenstierna G. 1983. Chrome plating: Symptoms, findings in the upper airways, and effects on lung function. *Arch Environ Health* 38:367-374.
- *Lindberg E, Vesterberg O. 1983a. Monitoring exposure to chromic acid in chromeplating by measuring chromium in urine. *Scand J Work Environ Health* 9:333-340.
- +*Lindberg E, Vesterberg O. 1983b. Urinary excretion of proteins in chromeplaters, exchromeplaters and referents. *Scand J Work Environ Health* 9:505-510.
- Lindemann MD, Wood CM, Harper AF, et al. 1995. Dietary chromium picolinate additions improve gain: Feed and carcass characteristics in growing-finishing pigs and increase litter size in reproducing sows. *J Anim Sci* 73:457-465.
- *Little MC, Gawkrödger DJ, Macneil S. 1996. Chromium- and nickel-induced cytotoxicity in normal and transformed human keratinocytes: An investigation of pharmacological approaches to the prevention of Cr(VI)-induced cytotoxicity. *Br J Dermatol* 134:199-207.
- +*Littorin M, Welinder H, Hultberg B. 1984. Kidney function in stainless steel welders. *Int Arch Occup Environ Health* 53:279-282.
- *Littorin M, Hogstedt B, Stromback B, et al. 1983. No cytogenetic effects in lymphocytes of stainless steel welders. *Scand J Work Environ Health* 9:259-264.
- *Liu JK, Morris JS. 1978. Relative chromium response as an indicator of chromium status. *Am J Clin Nutr* 31:972-976.
- *Liu KJ, Shi X. 2001. *In vivo* reduction of chromium (VI) and its related free radical generation. *Mol Cell Biochem* 222:41-47.
- Liu S, Dixon K. 1996. Induction of mutagenic DNA damage by chromium(VI) and glutathione. *Environ Mol Mutagen* 28:71-79.
- +*Liu CS, Kuo HW, Lai JS, et al. 1998. Urinary N-acetyl-B-glucosaminidase as an indicator of renal dysfunction in electroplating workers. *Int Arch Occup Environ Health* 71:348-352.
- *Liu KJ, Shi X, Dalal NS. 1997b. Synthesis of Cr(IV)-GSH, its identification and its free hydroxyl radical generation: A model compound for Cr(VI) carcinogenicity. *Biochem Biophys Res Commun* 235:54-58.

9. REFERENCES

- +*Liu KJ, Jiang J, Swartz HM, et al. 1994. Low-frequency EPR detection of chromium(V) formation by chromium(VI) reduction in whole live mice. *Arch Biochem Biophys* 313(2):248-252.
- +*Liu KJ, Mäder K, Shi X, et al. 1997a. Reduction of carcinogenic chromium(VI) on the skin of living rats. *MRM* 38:524-526.
- *Liu KJ, Shi X, Jiang JJ, et al. 1995. Chromate-induced chromium(V) formation in live mice and its control by cellular antioxidants: An L-band electron paramagnetic resonance study. *Arch Biochem Biophys* 323(1):33-39.
- Liu W, Chaspoul F, Lefranc DB, et al. 2007. Microcalorimetry as a tool for Cr(VI) toxicity evaluation of human dermal fibroblasts. *J Therm Anal Calorim* 89(1):21-24.
- Liu X, Lu J, Liu S. 1999. Synergistic induction of hydroxyl radical-induced DNA single-strand breaks by chromium(VI) compound and cigarette smoke solution. *Mutat Res* 440:109-117.
- *Livingston AL. 1978. Forage plant estrogens. *J Toxicol Environ Health* 4:301-324.
- *Llagostera M, Garrido S, Guerrero R, et al. 1986. Induction of SOS genes of *Escherichia coli* by chromium compounds. *Environ Mutagen* 8:571-577.
- Llobet JM, Granero S, Schuhmacher M, et al. 1998a. Biological monitoring of environmental pollution and human exposure to metals in Tarragona, Spain. II. Levels in autopsy tissues. *Trace Elem Electrolytes* 15(1):44-49.
- Llobet JM, Granero S, Schumacher M, et al. 1998b. Biological monitoring of environmental pollution and human exposure to metals in Tarragona, Spain. IV. Estimation of the dietary intake. *Trace Elem Electrolytes* 15(3):136-141.
- *Lo FB, Arai DK. 1988. Determination by atomic spectrometry of chromium on air sampling filters in the presence of iron. *Am Ind Hyg Assoc J* 49(5):207-212.
- Loeb LA, Sirover MA, Agarwal SS. 1978. Infidelity of DNA synthesis as related to mutagenesis and carcinogenesis. *Adv Exp Med Biol* 91:103-115.
- Lofroth G. 1978. The mutagenicity of hexavalent chromium is decreased by microsomal metabolism. *Naturwissenschaften* 65:207-208.
- Lofroth G, Ames BN. 1977. Mutagenicity of inorganic compounds in *Salmonella typhimurium*: Arsenic, chromium and selenium. *Mutat Res* 53:65-66.
- Losi ME, Amrhein C, Frankenberger WT. 1994. Environmental biochemistry of chromium. *Rev Environ Contam Toxicol* 136:91-121.
- +*Loubieres Y, de Lassence A, Bernier M, et al. 1999. Acute, fatal, oral chromic acid poisoning. *J Toxicol Clin Toxicol* 37(3):333-336.
- +*Lovrincevic I, Leung FY, Alfieri MAH, et al. 1996. Can elevated chromium induce somatopsychic responses? *Biol Trace Elem Res* 55:163-171.

9. REFERENCES

- Low KS, Lee CK, Lee PL. 1997. Chromium(III) sorption enhancement through NTA-modification of biological materials. *Bull Environ Contam Toxicol* 58:380-386.
- *Loyaux-Lawniczak S, Lecomte P, Ehrhardt J. 2001. Behavior of hexavalent chromium in a polluted groundwater: Redox Processes and immobilization in soils. *Environ Sci Technol* 35:1350-1357.
- Lu YY, Yang JL. 1995. Long-term exposure to chromium(VI) oxide leads to defects in sulfate transport system in Chinese hamster ovary cells. *J Cell Biochem* 57:655-665.
- +*Lucas JB, Kramkowski RS. 1975. Health hazard evaluation determination report number 74-87-221. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health.
- Lucia-Jandris P, Hooper JW, Fields BN. 1993. Reovirus M2 gene is associated with chromium release from mouse L cells. *J Virol* 67(9):5339-5345.
- Luciani S, Dal Toso R, Rebellato AM, et al. 1979. Effects of chromium compounds on plasma membrane Mg^{2+} -ATPase activity of BHK cells. *Chem Biol Interact* 27:29-67.
- *Luippold RS, Mundt KA, Austin RP, et al. 2003. Lung cancer mortality among chromate production workers. *Occup Environ Med* 60(6):451-457.
- *Lukanova A, Toniolo P, Zhitkovich A, et al. 1996. Occupational exposure to Cr(VI): Comparison between chromium levels in lymphocytes, erythrocytes, and urine. *Int Arch Occup Environ Health* 69:39-44.
- Lukaski HC. 1999. Chromium as a supplement. *Annu Rev Nutr* 19:279-302.
- *Lukaski HC, Bolonchuk WW, Siders WA, et al. 1996. Chromium supplementation and resistance training: Effects on body composition, strength, and trace element status of men. *Am J Clin Nutr* 63:954-965.
- *Luo H, Lu Y, Shi X, et al. 1996. Chromium(IV)-mediated Fenton-like reaction causes DNA damage: Implication to genotoxicity of chromate. *Ann Clin Lab Sci* 26(2):185-191.
- Lutton JD, Abraham NG, Drummond GS, et al. 1997. Zinc porphyrins: Potent inhibitors of hematopoieses in animal and human bone marrow. *Proc Natl Acad Sci USA* 94:1432-1436.
- Lytle CM, Lytle FW, Yang N, et al. 1998. Reduction of Cr(VI) to Cr(III) by wetland plants: Potential for in situ heavy metal detoxification. *Environ Sci Technol* 32:3087-3093.
- +*Machle W, Gregorius F. 1948. Cancer of the respiratory system in the United States chromate-producing industry. *Public Health Rep* 63:114-127.
- Mackenzie RD, Anwar RA, Byerrum RU, et al. 1959. Absorption and distribution of Cr51 in the albino rat. *Arch Biochem Biophys* 79:200-205.
- +*MacKenzie RD, Byerrum RU, Decker CF, et al. 1958. Chronic toxicity studies: II. Hexavalent and trivalent chromium administered in drinking water to rats. *Arch Ind Health* 18:232-234.

9. REFERENCES

- *MacRae WD, Whiting RF, Stich HF. 1979. Sister chromatid exchanges induced in cultured mammalian cells by chromate. *Chem Biol Interact* 26:281-286.
- Maeng SH, Chung HW, Yu IJ, et al. 2003. Changes of 8-OH dG levels in DNA and its base excision repair activity in rat lungs after inhalation exposure to hexavalent chromium. *Mutat Res* 539:109-116.
- *Maiti B, Desai SR. 1986. High-performance liquid chromatographic separation of beryllium, cobalt, nickel and chromium as the β -isopropyltropolone complexes and its application to the determination of chromium in air samples. *Analyst* 111:809-811.
- *Majone F, Levis AG. 1979. Chromosomal aberrations and sister-chromatid exchanges in Chinese hamster cells treated in vitro with hexavalent chromium compounds. *Mutat Res* 67:231-238.
- +*Major RH. 1922. Studies on a case of chromic acid nephritis. *Johns Hopkins Hosp Bull* 33:56-61.
- Majumder S, Ghoshal K, Summers D, et al. 2003. Chromium(VI) down-regulates heavy metal-induced metallothionein gene transcription by modifying transactivation potential of the key transcription factor, metal-responsive transcription factor 1. *J Biol Chem* 278(28):26216-26226.
- +*Mali JW, Malten K, Van Neer FCJ. 1966. Allergy to chromium. *Arch Dermatol* 93:41-44.
- *Mali JWH, Van Kooten WJ, VanNeer FCJ. 1963. Some aspects of the behavior of chromium compounds in the skin. *J Invest Dermatol* 41:111-122.
- *Malinski T, Fish J, Matusiewicz H. 1988. Determining ultratrace metal concentrations by inductively coupled plasma emission spectrometry. *Am Water Works Assoc J* 80:81-85.
- *Malm O, Pfeiffer WC, Fiszman M, et al. 1988. Transport and availability of heavy metals in the Paraiba Do Sul-Guandu river system, Rio de Janeiro State, Brazil. *Sci Total Environ* 75:201-209.
- *Malsch PA, Proctor DM, Finley BL. 1994. Estimation of chromium inhalation reference concentration using the benchmark dose method: A case study. *Regul Toxicol Pharmacol* 20:58-82.
- Maltoni C. 1976. Predictive value of carcinogenesis bioassays. *Ann NY Acad Sci* 271:431-433.
- +*Mancuso TF. 1951. Occupational cancer and other health hazards in a chromate plant: A medical appraisal: II. Clinical and toxicologic aspects. *Ind Med Surg* 20:393-407.
- +*Mancuso TF. 1975. Consideration of chromium as an industrial carcinogen. In: Hutchinson TC, ed. *Proceedings of the international conference on heavy metals in the environment*. Toronto, Canada: Toronto Institute for Environmental Studies, 343-356.
- +*Mancuso TF. 1997a. Chromium as an industrial carcinogen: Part I. *Am J Ind Med* 31:129-139.
- +*Mancuso TF. 1997b. Chromium as an industrial carcinogen: Part II. Chromium in human tissues. *Am J Ind Med* 31:140-147.
- *Mancuso TF, Hueper WC. 1951. Occupational cancer and other health hazards in a chromate plant: A medical appraisal: I. Lung cancers in chromate workers. *Ind Med Surg* 20:358-363.

9. REFERENCES

- *Manning FCR, Xu J, Patierno SR. 1992. Transcriptional inhibition by carcinogenic chromate: Relationship to DNA damage. *Mol Carcinog* 6:270-279.
- *Manygoats KR, Yazzie M, Stearns DM. 2002. Ultrastructural damage in chromium picolinate-treated cells: A TEM study. *J Biol Inorg Chem* 7:791-798.
- +*Manzo L, Di Nucci A, Edel J, et al. 1983. Biliary and gastrointestinal excretion of chromium after administration of Cr-III and Cr-VI in rats. *Res Commun Chem Pathol Pharmacol* 42(1):113-125.
- Manzoori JL, Sorouraddin MH, Shemiran F. 1996. Preconcentration and spectrophotometric determination of chromium(VI) and total chromium in drinking water by the sorption of chromium diphenylcarbazone with surfactant coated alumina. *Anal Lett* 29:2007-2014.
- *Mao Y, Zang L, Shi X. 1995. Generation of free radicals by Cr(IV) from lipid hydroperoxides and its inhibition by chelators. *Biochem Mol Biol Int* 36(2):327-337.
- Marini F, Ferré, MP, Gross H. 1995. Does welding stainless steel cause cancer? *Scand J Work Environ Health* 21:65-68.
- Mariscal A, Garcia A, Carnero M, et al. 1995. Evaluation of the toxicity of several heavy metals by a fluorescent bacterial bioassay. *J Appl Toxicol* 15(2):103-107.
- *Martin WR, Fuller RE. 1998. Suspected chromium picolinate-induced rhabdomyolysis. *Pharmacotherapy* 18(4):860-862.
- +*Maruyama Y. 1982. The health effect of mice given oral administration of trivalent and hexavalent chromium over a long-term. *Acta Scholae Medicinalis Universitatis in Gifu* 31:24-46.
- +Mason RW, Edwards IR. 1989. Acute toxicity of combinations of sodium dichromate, sodium arsenate and copper sulphate in the rat. *Comp Biochem Physiol* 93C:121-125.
- Matczak W, Chmielnicka J. 1993. Relation between various chromium compounds and some other elements in fumes from manual metal arc stainless steel welding. *Br J Ind Med* 50:244-251.
- *Mathur AK. 2005. Effects of dermal application of chromium and linear alkylbenzene sulphonate alone and in combination in guinea pigs. *Toxicol Int* 12(1):9-12.
- Mathur AK, Gupta BN. 1998. Dermal toxicity of linear alkylbenzene sulfonate, chromium, and nickel in guinea pigs. *J Toxicol Cutaneous Ocul Toxicol* 17(4):191-196.
- +Mathur AK, Chandra SV, Tandon SK. 1977. Comparative toxicity of trivalent and hexavalent chromium to rabbits: II. Morphological changes in some organs. *Toxicology* 8:53-61.
- *Matsui S. 1980. Evaluation of a *Bacillus subtilis* rec-assay for the detection of mutagens which may occur in water environments. *Water Res* 14:1613-1619.
- +*Matsumoto N, Iijima S, Katsunuma H. 1976. Placental transfer of chromic chloride and its teratogenic potential in embryonic mice. *J Toxicol Sci* 2(2):1-13.

9. REFERENCES

- *Mattagajasingh SN, Misra HP. 1996. Mechanisms of the carcinogenic chromium(VI)-induced DNA-protein cross-linking and their characterization in cultured intact human cells. *J Biol Chem* 271(52):33550-33560.
- Mattagajasingh SN, Misra HP. 1999. Analysis of EDTA-chelatable proteins from DNA-protein crosslinks induced by a carcinogenic chromium (VI) in cultured intact human cells. *Mol Cell Biochem* 199(1-2):149-162
- Mayebzadeh A, Dufresne A, Harvie S, et al. 1999. Mineralogy of lung tissue in dental laboratory technicians' pneumoconiosis. *Am Ind Hyg Assoc J* 60:349-353.
- *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.
- *McAughey JJ, Samuel AM, Baxter PJ, et al. 1988. Biological monitoring of occupational exposure in the chromate pigment production industry. *Sci Total Environ* 71:317-322.
- McCarty MF. 1993. Homologous physiological effects of phenformin and chromium picolinate. *Med Hypotheses* 41:316-324.
- McCarty MF. 1994. Longevity effect of chromium picolinate - "rejuvenation" of hypothalamic function? *Med Hypotheses* 43:253-265.
- McCarty MF. 1995. Inhibition of citrate lyase may aid aerobic endurance. *Med Hypotheses* 45:247-254.
- McCarty MF. 1996. Chromium and other insulin sensitizers may enhance glucagon secretion: Implications for hypoglycemia and weight control. *Med Hypotheses* 46:77-80.
- McCarty MF. 1997a. Over-the-counter chromium and renal failure. *Ann Intern Med* 127(8):654-655.
- McCarty MF. 1997b. Subtoxic intracellular trivalent chromium is not mutagenic: Implications for safety of chromium supplementation. *Med Hypotheses* 48:263-269.
- McGregor DB, Martin R, Cattanaach P, et al. 1987. Responses of the L5178Y tk⁺/tk⁻ mouse lymphoma cell forward mutation assay to coded chemicals. I: Results for nine compounds. *Environ Mutagen* 9:143-160.
- McKay GC, Macnair R, MacDonald C, et al. 1996. Interactions of orthopaedic metals with an immortalized rat osteoblast cell line. *Biomaterials* 17(13):1339-1344.
- McKenna IM, Ramakrishna G, Diwan BA, et al. 2001. K-ras mutations in mouse lung tumors of extreme age: Independent of paternal preconceptional exposure to chromium(III) but significantly more frequent in carcinomas than adenomas. *Mutat Res* 490:57-65.
- *Medeiros MG, Rodrigues AS, Batoreu MC, et al. 2003a. Elevated levels of DNA-protein crosslinks and micronuclei in peripheral lymphocytes of tannery workers exposed to trivalent chromium. *Mutagenesis* 18(1):19-24.
- *Medeiros MG, Rodrigues AS, Batoreu MC, et al. 2003b. Biomarkers of chromium exposure and cytogenetic damage in leather tanning and welding industry workers. In: Cebulska-Wasilewska A, Au WW, Sram RJ, eds. *Human monitoring for genetic effects*. Washington, DC: IOS Press, 132-141.

9. REFERENCES

- Medina-Campos ON, Barrera D, Segoviano-Murillo S, et al. 2007. S-allylcysteine scavenges singlet oxygen and hypochlorous acid and protects LLC-PK1 cells of potassium dichromate-induced toxicity. *Food Chem Toxicol* 45(10):2030-2039.
- Mehra R, Bhalla S. 1998. Determination of chromium, manganese, iron and nickel content of hair for evaluating exposure to metals in occupational environment. *Oriental J Chem* 14(1):117-120.
- Mehra R, Juneja M. 2005. Fingernails as biological indices of metal exposure. *J Biosci* 30(2):253-257.
- *Meranger JC, Subramanian KS, Chalifoux C. 1979. A national survey for cadmium, chromium, copper, lead, zinc, calcium and magnesium in Canadian drinking water supplies. *Environ Sci Technol* 13(6):707-711.
- *Merian E. 1984. Introduction on environmental chemistry and global cycles of chromium, nickel, cobalt, beryllium, arsenic, cadmium and selenium, and their derivatives. *Toxicol Environ Chem* 8:9-38.
- Merk O, Reiser K, Speit G. 2000. Analysis of chromate-induced DNA-protein crosslinks with the comet assay. *Mutat Res* 471(1-2):71-80.
- +*Merkur'eva RV, Koganova ZI, Gabdullina MK, et al. 1982. [Comparison of metabolic reactions in the bodies of experimental animals exposed to hexavalent chromium with different paths of penetration]. *Gig Sanit* 8:75-76. (Russian)
- +Merritt K, Crowe TD, Brown SA. 1989. Elimination of nickel, cobalt, and chromium following repeated injections of high dose metal salts. *J Biomed Mater Res* 23:845-862.
- *Mertz W. 1969. Chromium occurrence and function in biological systems. *Physiol Rev* 49(2):163-239.
- Mertz W. 1974. The newer essential trace elements, chromium, tin, vanadium, nickel and silicon. *Proc Nutr Soc* 33:307-131.
- Mertz W. 1995. Risk assessment of essential trace elements: New approaches to setting recommended dietary allowances and safety limits. *Nutr Rev* 53(7):179-185.
- +*Mertz W, Roginski EE, Feldman FJ, et al. 1969. Dependence of chromium transfer into the rat embryo on the chemical form. *J Nutr* 99:363-367.
- *Messer J, Reynolds M, Stoddard L, et al. 2006. Causes of DNA single-strand breaks during reduction of chromate by glutathione in vitro and in cells. *Free Radic Biol Med* 40(11):1981-1992.
- +*Meyers JB. 1950. Acute pulmonary complications following inhalation of chromic acid mist. *Ann Ind Hyg Occup Med* 2:742-747.
- Michaels D, Lurie P, Monforton C. 2006a. Lung cancer mortality in the German chromate industry. (Comment on: *J Occup Environ Med* 48(4):426-433). *J Occup Environ Med* 48(10):995-997.
- Michaels D, Monforton C, Lurie P. 2006b. Selected science: An industrial campaign to undermine an OSHA hexavalent chromium standard. *Environ Health* 5(5):1-8.

9. REFERENCES

*Michel R, Loer F, Nolte M, et al. 1987. Neutron activation analysis of human tissues, organs and body fluids to describe the interaction of orthopaedic implants made of cobalt-chromium alloy with the patients organisms. *J Radioanal Nucl Chem* 113(1):83-96.

Michels PE. 1999. [Nickel and chromium(VI) aerosols in the air at electroplating facilities]. *Galvanotechnik* 90(5):1280-1286.

+*Mignini F, Streccioni V, Baldo M, et al. 2004. Individual susceptibility to hexavalent chromium of workers of shoe, hide, and leather industries. Immunological pattern of HLA-B8,DR3-positive subjects. *Prev Med* 39(4):767-775.

Mikalsen A, Capellmann M, Alexander J. 1995. The role of iron chelators and oxygen in the reduced nicotinamide adenine dinucleotide phosphate-cytochrome P450 oxidoreductase-dependent chromium(VI) reduction. *Analyst* 120:935-938.

*Mikalsen A, Alexander J, Andersen RA, et al. 1989. Reduction of hexavalent chromium in a reconstituted system of cytochrome P-450 and cytochrome b₅. *Chem Biol Interact* 71:213-221.

*Mikalsen SO. 1990. Effects of heavy metal ions on intercellular communication in Syrian hamster embryo cells. *Carcinogenesis* 11(9):1621-1626.

Miksche LW, Lewalter J. 1997. Health surveillance and biological effect monitoring for chromium-exposed workers. *Regul Toxicol Pharmacol* 26:S94-S99.

*Milford JB, Davidson CI. 1985. The sizes of particulate trace elements in the atmosphere — a review. *J Air Pollut Control Assoc* 35:1249-1260.

*Miller CA, Cohen MD, Costa M. 1991. Complexing of actin and other nuclear proteins to DNA by cis-diamminedichloroplatinum(II) and chromium compounds. *Carcinogenesis* 12(2):269-276.

+*Minoia C, Cavalleri A. 1988. Chromium in urine, serum and red blood cells in the biological monitoring of workers exposed to different chromium valency states. *Sci Total Environ* 71:323-327.

*Mirsalis JC, Hamilton CM, O'Loughlin KG, et al. 1996. Chromium(VI) at plausible drinking water concentrations is not genotoxic in the in vivo bone marrow micronucleus or liver unscheduled DNA synthesis assays. *Environ Mol Mutagen* 28:60-63.

Misra M, Alcedo JA, Wetterhahn KE. 1994. Two pathways for chromium(VI)-induced DNA damage in 14 day chick embryos: Cr-DNA binding in liver and 8-oxo-2'deoxyguanosine in red blood cells. *Carcinogenesis* 15(12):2911-2917.

Moghaddas S, Gelerinter E, Bose RN. 1995. Mechanisms of formation and decomposition of hypervalent chromium metabolites in the glutathione-chromium(VI) reaction. *J Inorg Biochem* 57:135-146.

+*Mohamedshah FY, Moser-Veillon PB, Yamini S, et al. 1998. Distribution of a stable isotope of chromium (⁵³Cr) in serum, urine, and breast milk in lactating women. *Am J Clin Nutr* 67:1250-1255.

+*Moller DR, Brooks SM, Bernstein DI, et al. 1986. Delayed anaphylactoid reaction in a worker exposed to chromium. *J Allergy Clin Immunol* 77(3):451-456.

9. REFERENCES

- *Molyneux MJ, Davies MJ. 1995. Direct evidence for hydroxyl radical-induced damage to nucleic acids by chromium(VI)-derived species: Implications for chromium carcinogenesis. *Carcinogenesis* 16(4):875-882.
- *Montaldi A, Zentilin L, Zordan M, et al. 1987. Chromosomal effects of heavy metals (Cd, Cr, Hg, Ni and Pb) on cultured mammalian cells in the presence of nitrilotriacetic acid (NTA). *Toxicol Environ Chem* 14:183-200.
- Moore JW, Maher MA, Banz WJ, et al. 1997. Chromium picolinate modulates rat vascular smooth muscle cell intracellular calcium metabolism. *J Nutr* 128:180-184.
- +*Mor S, Ben-Efraim S, Leibovici J, et al. 1988. Successful contact sensitization to chromate in mice. *Int Arch Allergy Appl Immunol* 85:452-457.
- Mor S, Ravindra K, Dahiya RP, et al. 2006. Leachate characterization and assessment of groundwater pollution near municipal solid waste landfill site. *Environ Monit Assess* 118:435-456.
- *Morris B, MacNeil S, Fraser R, et al. 1995b. Increased urine chromium excretion in normal pregnancy. *Clin Chem* 41(10):1544-1545.
- Morris BW, Gray TA, MacNeil S. 1993a. Glucose-dependent uptake of chromium in human and rat insulin-sensitive tissues. *Clin Sci* 84:477-482.
- Morris BW, Gray T, MacNeil S. 1995a. Evidence for chromium acting as an essential trace element in insulin-dependent glucose uptake in cultured mouse myotubes. *J Endocrinol* 144:135-141.
- Morris BW, MacNeil S, Stanley K, et al. 1993b. The inter-relationship between insulin and chromium in hyperinsulinaemic euglycaemic clamps in healthy volunteers. *J Endocrinol* 139:339-345.
- Morselli L, Cecchini M, Grandi E, et al. 1999. Heavy metals in atmospheric surrogate dry deposition. *Chemosphere* 38(4):899-907.
- *Morselli PL, Franco-Morselli R, Bossi L. 1980. Clinical pharmacokinetics in newborns and infants. *Clin Pharmacokin* 5:485-527.
- *Moschandreas DJ, Karuchit S, Berry MR, et al. 2002. Exposure apportionment: Ranking food items by their contribution to dietary exposure. *J Expo Anal Environ Epidemiol* 12:233-243.
- Moukarzel AA, Song MK, Buchman AL, et al. 1992. Excessive chromium intake in children receiving total parenteral nutrition. *Lancet* 339:385-388.
- +*Moulin JJ, Wild P, Mantout B, et al. 1993. Mortality from lung cancer and cardiovascular diseases among stainless-steel producing workers. *Cancer Causes Control* 4:75-81.
- *Moxon AL, DuBois KP. 1939. The influence of arsenic and certain other elements on the toxicity of seleniferous grains. *J Nutr* 18:447-457.
- *Mudroch A, Sarazin L, Lomas T. 1988. Report: Summary of surface and background concentrations of selected elements in the Great Lakes sediments. *J Great Lakes Res* 14(2):241-251.
- Mukherjee AB. 1998. Chromium in the environment of Finland. *Sci Total Environ* 217:9-19.

9. REFERENCES

- Mukherjee S, Palmer LJ, Kim JY, et al. 2004. Smoking status and occupational exposure affects oxidative DNA injury in boilerworkers exposed to metal fume and residual oil fly ash. *Cancer Epidemiol Biomarkers Prev* 13(3):454-460.
- Mukherjee S, Rodrigues E, Aeschliman DB, et al. 2005. Urinary metal and polycyclic aromatic hydrocarbon biomarkers in boilerworkers exposed to metal fume and residual oil fly ash. *Am J Ind Med* 47(6):484-493.
- *Munch D. 1993. Concentration profiles of arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc, vanadium and polynuclear aromatic hydrocarbons (PAH) in forest soil beside an urban road. *Sci Total Environ* 138:47-55.
- *Mundt KA, Dell LD. 1997. Carcinogenicity of trivalent and hexavalent chromium. *OEM Report* 11(11):95-100.
- Murgia N, Muzi G, Dell'omo M, et al. 2006. Induced sputum, exhaled breath condensate and nasal lavage fluid in electroplating workers exposed to chromium. *Int J Immunopathol Pharmacol* 19(4):67-71.
- +*Murthy RC, Junaid M, Saxena DK. 1996. Ovarian dysfunction in mice following chromium (VI) exposure. *Toxicol Lett* 89:147-154.
- +Murthy RC, Saxena DK, Gupta SK, et al. 1991. Ultrastructural observations in testicular tissue of chromium-treated rats. *Reprod Toxicol* 5:443-447.
- *Muttamara S, Leong ST. 2004. Health implication among occupational exposed workers in a chromium alloy factory, Thailand. *J Environ Sci* 16(2):181-186.
- +*Mutti A, Cavatorta A, Borghi L, et al. 1979. Distribution and urinary excretion of chromium: Studies on rats after administration of single and repeated doses of potassium dichromate. *Med Lav* 3:171-179.
- +*Mutti A, Lucertini S, Valcavi P, et al. 1985a. Urinary excretion of brush-border antigen revealed by monoclonal antibody: Early indicator of toxic nephropathy. *Lancet* 2(8461):914-917.
- *Mutti A, Pedroni C, Arfini G, et al. 1985b. Biological monitoring of occupational exposure to different chromium compounds at various valency states. In: Merian E, Frei RW, Hardi W, et al., eds. *Carcinogenic and mutagenic metal compounds: Environmental and analytical chemistry and biological effects*. London: Gordon and Breach Science Publishers, 119-125.
- *Myers CR, Myers JM. 1998. Iron stimulates the rate of reduction of hexavalent chromium by human microsomes. *Carcinogenesis* 19(6):1029-1038.
- Myers CR, Porgilsson B, Carstens BP, et al. 1999. Naphthoquinones stimulate the rate of reduction of hexavalent chromium by human microsomes. *Toxic Subst Mech* 18(3):103-128.
- Myers MJ, Farrell DE, Evock-Clover CM, et al. 1997. Effect of growth hormone or chromium picolinate on swine metabolism and inflammatory cytokine production after endotoxin challenge exposure. *Am J Vet Res* 58(6):594-598.

9. REFERENCES

- *Nadig RJ. 1994. Cadmium and other metals and metalloids. In: Goldfrank LR, Weisman RS, Flomenbaum NE, et al., eds. Goldfrank's toxicologic emergencies. 5th ed. Norwalk, CT: Appleton and Lange, 1063-1069.
- *Nagaya T. 1986. No increase in sister-chromatid exchange frequency in lymphocytes of chromium platers. *Mutat Res* 170:129-132.
- *Nagaya T, Ishikawa N, Hata H, et al. 1991. Sister-chromatid exchanges in lymphocytes from 12 chromium platers: A 5-year follow-up study. *Toxicol Lett* 58:329-335.
- *Nakamura S, Oda Y, Shimada T, et al. 1987. SOS-inducing activity of chemical carcinogens and mutagens in *Salmonella typhimurium* TA1535/pSK1002: Examination with 151 chemicals. *Mutat Res* 192:239-246.
- *Nakamuro K, Yoshikawa K, Sayato Y, et al. 1978. Comparative studies of chromosomal aberration and mutagenicity of trivalent and hexavalent chromium. *Mutat Res* 58:175-181.
- *NAS/NRC. 1989. Biologic markers in reproductive toxicology. National Academy of Sciences/National Research Council. Washington, DC: National Academy Press, 15-35.
- Nasu T, Ooyama I, Shibata H. 1993. Inhibitory effects of hexavalent chromium ions on the contraction in ileal longitudinal smooth muscle of guinea-pig. *Comp Biochem Physiol* 104C(1):97-102.
- *Nestmann ER, Matula TI, Douglas GR, et al. 1979. Detection of the mutagenic activity of lead chromate using a battery of microbial tests. *Mutat Res* 66:357-365.
- +*Nethercott J, Paustenbach D, Adams R, et al. 1994. A study of chromium induced allergic contact dermatitis with 54 volunteers: Implications for environmental risk assessment. *Occup Environ Med* 51:371-380.
- +*Nettesheim P, Szakal AK. 1972. Morphogenesis of alveolar bronchiolization. *Lab Invest* 26(2):210-219.
- +*Nettesheim P, Hanna MG, Doherty DG, et al. 1971. Effect of calcium chromate dust, influenza virus, and 100 R whole-body X-radiation on lung tumor incidence in mice. *J Natl Cancer Inst* 47(5):1129-1144.
- *Newbold RF, Amos J, Connell JR. 1979. The cytotoxic, mutagenic and clastogenic effects of chromium-containing compounds on mammalian cells in culture. *Mutat Res* 67:55-63.
- Newhook R, Hirtle H, Byrne K, et al. 2003. Releases from copper smelters and refineries and zinc plants in Canada: Human health exposure and risk characterization. *Sci Total Environ* 301:23-41.
- +*Newhouse ML. 1963. A cause of chromate dermatitis among assemblers in an automobile factory. *Br J Ind Med* 20:199-203.
- Ng TB, Liu WK. 1990. Toxic effect of heavy metals on cells isolated from the rat adrenal and testis. *In Vitro Cell Dev Biol* 26:24-28.
- Ng WK, Wilson RP. 1997. Chromic oxide inclusion in the diet does not affect glucose utilization or chromium retention by channel catfish, *Ictalurus punctatus*. *J Nutr* 127:2357-2362.

9. REFERENCES

Ning J, Grant MH. 2000. The role of reduced glutathione and glutathione reductase in the cytotoxicity of chromium (VI) in osteoblasts. *Toxicol In Vitro* 14:329-335.

NIOSH. 1975. Criteria for a recommended standard...occupational exposure to chromium(VI). Washington, DC: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. HEW (NIOSH) publication no. 76-129.

NIOSH. 1987a. Registry of toxic effects of chemical substances. 1985-86 ed. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. 106, 1590-1598.

NIOSH. 1987b. Manual of analytical methods, 3rd ed. Methods: 7024, 7600, 7604, 8005, 8310. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health.

*NIOSH. 1989. National occupation exposure survey. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. March 29, 1989.

*NIOSH. 1992. NIOSH recommendations for occupational safety and health. Compendium of Policy Documents and Statements. Categories of Pesticides. Atlanta, GA: National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention. <http://www.cdc.gov/niosh/92-100.html>. April 29, 2008.

*NIOSH. 1994a. Elements in blood or tissue. Method: 8005. In: NIOSH manual of analytical methods. 4th ed. Cincinnati, OH: Department of Health and Human Services, National Institute of Occupational Safety and Health. DHHS publication no. 94-113.

*NIOSH. 1994b. Metals in urine. Method: 8310. In: NIOSH manual of analytical methods. 4th ed. Cincinnati, OH: Department of Health and Human Services, National Institute of Occupational Safety and Health. DHHS publication no. 94-113.

*NIOSH. 1994c. Chromium and chromium compounds, as Cr. Method: 7024. In: NIOSH manual of analytical methods. 4th ed. Cincinnati, OH: Department of Health and Human Services, National Institute of Occupational Safety and Health. DHHS publication no. 94-113.

*NIOSH. 1994d. Elements by ICP. Method: 7300. In: NIOSH manual of analytical methods. 4th ed. Cincinnati, OH: Department of Health and Human Services, National Institute of Occupational Safety and Health. DHHS publication no. 94-113.

*NIOSH. 1994e. Chromium, hexavalent. Method: 7600. In: NIOSH manual of analytical methods. 4th ed. Cincinnati, OH: Department of Health and Human Services, National Institute of Occupational Safety and Health. DHHS publication no. 94-113.

*NIOSH. 1994f. Chromium, hexavalent. Method: 7604. In: NIOSH manual of analytical methods. 4th ed. Cincinnati, OH: Department of Health and Human Services, National Institute of Occupational Safety and Health. DHHS publication no. 94-113.

9. REFERENCES

- *NIOSH. 2005. Chromium. NIOSH pocket guide to chemical hazards. Atlanta, GA: National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention. <http://www.cdc.gov/niosh/npg/>. April 24, 2008.
- *NIOSH. 2008. International chemical safety cards. U.S. national Version. National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/ipcsneng/neng0029.html>. May 22, 2008.
- *Nishioka H. 1975. Mutagenic activities of metal compounds in bacteria. *Mutat Res* 31:185-189.
- +Nomiya K, Nomiya H, Yotoryama M. 1982. Low-molecular-weight proteins in urine from rabbits given nephrotoxic compounds. *Ind Health* 20:1-10.
- Norseth T. 1981. The carcinogenicity of chromium. *Environ Health Perspect* 40:121-130.
- *Norseth T. 1986. The carcinogenicity of chromium and its salts. *Br J Ind Med* 43:649-651.
- +*Norseth T, Alexander J, Aaseth J, et al. 1982. Biliary excretion of chromium in the rat: A role of glutathione. *Acta Pharmacol Toxicol* 51:450-455.
- Nour AM, El-Tablawy N, El Allaway RMM. 2000. Beneficial role of L-thyroxine on hepato-renal toxicity induced by amikacin and potassium dichromate. *J Drug Res* 23:277-289.
- Nouri AME, Mansouri M, Hussain RF, et al. 1995. Super-sensitive epithelial cell line and colorimetric assay to replace the conventional K562 target and chromium release assay for assessment of non-MHC-restricted cytotoxicity. *J Immunol Methods* 180:63-68.
- +*Novey HS, Habib M, Wells ID. 1983. Asthma and IgE antibodies induced by chromium and nickel salts. *J Allergy Clin Immunol* 72(4):407-412.
- Nowak B. 1998. Contents and relationship of elements in human hair for a non-industrialised population in Poland. *Sci Total Environ* 209:59-68.
- NRC. 1989. National Research Council. Recommended dietary allowances. 10th ed. Washington, DC: National Academy of Sciences, 241-243.
- *NRC. 1993. Pesticides in the diets of infants and children. Washington DC: National Academy Press, National Research Council.
- *NRCC. 1976. Effects of chromium in the Canadian environment. Ottawa, Canada: Subcommittee on Heavy Metals and Certain Other Compounds, National Research Council of Canada, 92.
- *Nriagu JO. 1979. Copper in the atmosphere and precipitation. In: Nriagu JO, ed. Copper environment. New York, NY: John Wiley and Sons, 43-75.
- *Nriagu JO, Pacyna JM. 1988. Quantitative assessment of worldwide contamination of air, water and soils by trace metals. *Nature* 333:134-139.
- +*NTP. 1996a. Final report on the reproductive toxicity of potassium dichromate (hexavalent) (CAS No. 7778-50-9) administered in diet to SD rats. National Institute of Environmental Health Sciences, National Toxicology Program. PB97125355.

9. REFERENCES

- +*NTP. 1996b. Final report on the reproductive toxicity of potassium dichromate (hexavalent) (CAS No. 7778-50-9) administered in diet to BALB/c mice. National Institute of Environmental Health Sciences, National Toxicology Program. PB97125363.
- +*NTP. 1997. Final report on the reproductive toxicity of potassium dichromate (CAS No. 7778-50-9) administered in diet to BALB/c mice. National Institute of Environmental Health Sciences, National Toxicology Program. PB97144919.
- NTP. 1998. Report on carcinogens, Eighth edition: Summary 1998. Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Institute of Environmental Health Sciences, National Toxicology Program, 29-31.
- NTP. 2002. Report on carcinogens. 10th ed. Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. <http://ehp.niehs.nih.gov/roc/toc10/html>. March 24, 2008.
- *NTP. 2005. Report on carcinogens. 11th ed. Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. <http://ntp-server.niehs.nih.gov/ntp/roc/toc11.html>. April 24, 2008.
- +*NTP. 2007. NTP technical report on the toxicity studies of sodium dichromate dihydrate (CAS No. 7789-12-0) administered in drinking water to male and female F344/N rats and B6C3F1 mice and male BALB/c and *am3-C57BL/6* mice. Washington, DC: National Toxicology Program. Toxicity Report Series Number 72. http://ntp.niehs.nih.gov/ntp/htdocs/ST_rpts/TOX72.pdf. October 7, 2008
- +*NTP. 2008a. NTP technical report on the toxicology and carcinogenesis studies of sodium dichromate dihydrate (CAS No. 7789-12-0) in F344/N rats and B6C3F1 mice (drinking water studies). Washington, DC: National Toxicology Program. NTP TR 546. http://ntp.niehs.nih.gov/files/546_web_FINAL.pdf. August 13, 2008.
- +*NTP. 2008b. NTP technical report on the toxicology and carcinogenesis studies of chromium picolinate monohydrate (CAS No. 27882-76-4) in F344/N rats and B6C3F1 mice (feed studies). Scheduled peer review date: February 27-28, 2008. Washington, DC: National Toxicology Program. NTP TR 556. http://ntp.niehs.nih.gov/files/TR556board_webRev.pdf. May 21, 2008.
- *O'Brien TJ, Brooks BR, Patierno SR. 2005. Nucleotide excision repair functions in the removal of chromium-induced DNA damage in mammalian cells. *Mol Cell Biochem* 279:85-95.
- *O'Brien TJ, Ceryak S, Patierno SR. 2003. Complexities of chromium carcinogenesis: Role of cellular response, repair and recovery mechanisms. *Mutat Res* 533(1-2):3-36.
- *Offenbacher EG, Pi-Sunyer FX. 1980. Beneficial effect of chromium-rich yeast on glucose tolerance and blood lipids in elderly subjects. *Diabetes* 29:919-925.
- O'Flaherty EJ. 1993a. A pharmacokinetic model for chromium. *Toxicol Lett* 68:145-158.
- O'Flaherty EJ. 1993b. Chromium as an essential and toxic metal. *Scand J Work Environ Health* 19(1):124-124.
- *O'Flaherty EJ. 1993c. Physiologically based models for bone-seeking elements. IV. Kinetics of lead disposition in humans. *Toxicol Appl Pharmacol* 118:16-29.

9. REFERENCES

- *O'Flaherty EJ. 1995. Physiologically based models for bone-seeking elements. V. Lead absorption and disposition in childhood. *Toxicol Appl Pharmacol* 131:297-308.
- *O'Flaherty EJ. 1996. A physiologically based model of chromium kinetics in the rat. *Toxicol Appl Pharmacol* 138:54-64.
- O'Flaherty EJ. 1998. Physiologically based models of metal kinetics. *Crit Rev Toxicol* 28(3):271-317.
- *O'Flaherty EJ, Kerger BD, Hays SM, et al. 2001. A physiologically based model for the ingestion of chromium(III) and chromium(VI) by humans. *Toxicol Sci* 60:196-213.
- Ogawa M, Nakajima Y, Endo Y. 2007. Four cases of chemical burns thought to be caused by exposure to chromic acid mist. *J Occup Health* 49(5):402-404.
- *Ohanian EV. 1986. Health effects of corrosion products in drinking water. *Trace Subst Environ Health* 20:122-138.
- *O'Hara KA, Klei LR, Barchowsky A. 2003. Selective activation of Src family kinases and JNK by low levels of chromium(VI). *Toxicol Appl Pharmacol* 190(3):214-223.
- *O'Hara KA, Vaghjiani RJ, Nemec AA, et al. 2007. Cr(VI)-stimulated STAT3 tyrosine phosphorylation and nuclear translocation in human airway epithelial cells requires Lck. *Biochem J* 402(2):261-269.
- *Ohno H, Hanaoka F, Yamada MA. 1982. Inducibility of sister-chromatid exchanges by heavy-metal ions. *Mutat Res* 104:141-145.
- +*Ohsaki Y, Abe S, Kimura K, et al. 1978. Lung cancer in Japanese chromate workers. *Thorax* 33:372-374.
- Okada S, Tsukada H, Tezuka M. 1989. Effect of chromium(III) on nucleolar RNA synthesis. *Biol Trace Elem Res* 21:35-39.
- +*Okubo T, Tsuchiya K. 1977. An epidemiological study on lung cancer among chromium plating workers. *Keio J Med* 26:171-177.
- +*Okubo T, Tsuchiya K. 1979. Epidemiological study of chromium platers in Japan. *Biol Trace Elem Res* 1:35-44.
- +*Olaguibel JM, Basomba A. 1989. Occupational asthma induced by chromium salts. *Allergol Immunopathol (Madr)* 17(3):133-136.
- Oliveira H, Santos TM, Ramalho-Santos J, et al. 2006. Histopathological effects of hexavalent chromium in mouse kidney. *Bull Environ Contam Toxicol* 76(6):977-983.
- *Olivier P, Marzin D. 1987. Study of the genotoxic potential of 48 inorganic derivatives with the SOS chromotest. *Mutat Res* 189:263-269.
- *Olvera O, Zimmering S, Arceo C, et al. 1993. The protective effects of chlorophyllin in treatment with chromium(VI) oxide in somatic cells of *Drosophila*. *Mutat Res* 301:201-204.

9. REFERENCES

Ondov JM, Choquette CE, Zoller WH, et al. 1989. Atmospheric behavior of trace elements on particles emitted from a coal-fired power plant. *Atmos Environ* 23(10):2193-1104.

*O'Neil MJ, Heckelman PE, Koch CB, et al., eds. 2006. *The Merck index*. 14th ed. Whitehouse Station, NJ: Merck & Co., Inc., 370, 372.

Ortega R, Deves G, Bonnin-Mosbah M, et al. 2001. Chromium mapping in male mice reproductive glands exposed to CrCl₃ using proton and x-ray synchrotron radiation microbeams. *Nucl Instrum Methods Phys Res B* 181:485-488.

Ortega R, Deves G, Fayard B, et al. 2003. Combination of synchrotron radiation x-ray microprobe and nuclear microprobe for chromium and chromium oxidation states quantitative mapping in single cells. *Nucl Instrum Methods Phys Res B* 210:325-329.

*OSHA. 1998a. Air contaminants; final rule. U.S. Department of Labor. Occupational Safety and Health Administration. *Fed Regist* 54:2930.

OSHA. 1998b. Industry group seeks updated data on hex chrome exposure. Occupational Safety and Health Administration. *Inside OSHA*. August 24, 1998.

OSHA 1999a. U.S. Department of Labor. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1910.1000.

OSHA 1999b. U.S. Department of Labor. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1915.1000.

OSHA 1999c. U.S. Department of Labor. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1926.55.

OSHA. 2001. Method ID-109-SG: Aluminum oxide in workplace atmospheres. Sampling and analytical methods. Occupational Safety and Health Administration. U.S. Department of Labor. <http://www.osha.gov/dts/sltc/methods/inorganic/t-id109sg-pv-02-0110-m/t-id109sg-pv-02-0110-m.html>. March 07, 2006.

*OSHA. 2007a. Air contaminants. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1910.1000, Table Z 1. <http://www.osha.gov/comp-links.html>. April 24, 2008.

OSHA. 2007b. Gases, vapors, fumes, dusts, and mists. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1926.55, Appendix A. <http://www.osha.gov/comp-links.html>. April 24, 2008.

OSHA. 2007c. Limits for air contaminants. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1915.1000. <http://www.osha.gov/comp-links.html>. April 24, 2008.

*OSHA. 2007d. Chromium (VI). Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1910.26. http://edocket.access.gpo.gov/cfr_2007/julqtr/pdf/29cfr1910.1026.pdf. October 07, 2008.

*OSHA. 2007e. Chromium (VI). Code of Federal Regulations. Occupational Safety and Health Administration. 29 CFR 1915.1026. http://edocket.access.gpo.gov/cfr_2007/julqtr/pdf/29cfr1915.1026.pdf. October 07, 2008.

9. REFERENCES

- *OSHA. 2007f. Safety and health regulations for construction. Chromium (VI). Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1926.1126. http://edocket.access.gpo.gov/cfr_2007/julqtr/pdf/29cfr1926.1126.pdf. October 07, 2008.
- *Osim EE, Tandayi M, Chinyanga HM, et al. 1999. Lung function, blood gases, pH and serum electrolytes of small-scale miners exposed to chrome ore dust on the Great Dyke in Zimbabwe. *Trop Med Int Health* 4(9):621-628.
- Oster-Jorgensen E, Gerner T, Pedersen SA. 1991. The determination of gastric emptying rate. *Euro J Surg* 157:31-43.
- *OTA. 1990. Neurotoxicology: Identifying and controlling poisons of the nervous system. Washington, DC: Office of Technology Assessment, OTA-BA-438.
- *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: Saunders, 222-238.
- *Oygard JK, Mage A, Gjengedal E. 2004. Estimation of the mass-balance of selected metals in four sanitary landfills in Western Norway, with emphasis on the heavy metal content of the deposited waste and the leachate. *Water Res* 38:2851-2858.
- *Pacyna JM, Ottar B. 1985. Transport and chemical composition of the summer aerosol in the Norwegian Arctic. *Atmos Environ* 19(12):2109-2120.
- *Pacyna JM, Pacyna EG. 2001. An assessment of global and regional emissions of trace metals to the atmosphere from anthropogenic sources worldwide. *Environ Rev* 9(4):269-298.
- Paddle GM. 1997. Metaanalysis as an epidemiological tool and its application to studies of chromium. *Regul Toxicol Pharmacol* 26:S42-S50.
- Palmer CD, Wittbrodt PR. 1991. Processes affecting the remediation of chromium-contaminated sites. *Environ Health Perspect* 92:25-40.
- *Papp JF, Lipin BR. 2001. Chromium and chromium alloys. In: *Kirk-Othmer encyclopedia of chemical technology*. John Wiley & Sons, Inc, 468-526. <http://mrw.interscience.wiley.com/emrw/9780471238966/kirk/article/chrowest.a01/current/pdf>. May 21, 2008.
- +*Park RM, Stayner LT. 2006. A search for thresholds and other nonlinearities in the relationship between hexavalent chromium and lung cancer. *Risk Anal* 26(1):79-88.
- +*Park RM, Bena JF, Stayner LT, et al. 2004. Hexavalent chromium and lung cancer in the chromate industry: A quantitative risk assessment. *Risk Anal* 24(5):1099-1108.
- *Parks JL, McNeill L, Frey M, et al. 2004. Determination of total chromium in environmental water samples. *Water Res* 38(12):2827-2838.
- +*Partington CN. 1950. Acute poisoning with potassium bichromate. *Br Med J* 2(4688):1097-1098.
- Pascal LE, Tessier DM. 2004. Cytotoxicity of chromium and manganese to lung epithelial cells in vitro. *Toxicol Lett* 147(2):143-151.

9. REFERENCES

- +*Pascale LR, Waldstein SS, Engbring G, et al. 1952. Chromium intoxication with special reference to hepatic injury. *J Am Med Assoc* 149:1385-1389.
- *Paschin YV, Zacepilova TA, Kozchenko VI. 1982. Induction of dominant lethal mutations in male mice by potassium dichromate. *Mutat Res* 103:345-347.
- +*Pastides H, Austin R, Lemeshow S, et al. 1994. A retrospective-cohort study of occupational exposure to hexavalent chromium. *Am J Ind Med* 25:663-675.
- *Pattison DI, Davies MJ, Levina A, et al. 2001. Chromium(VI) reduction by catechol(amine)s results in DNA cleavage in vitro: Relevance to chromium genotoxicity. *Chem Res Toxicol* 14(5):500-510.
- *Paustenbach DJ, Finley BL, Mowat FS, et al. 2003. Human health risk and exposure assessment of chromium(VI) in tap water. *J Toxicol Environ Health A* 66(14):1295-1339.
- +*Paustenbach DJ, Hays SM, Brien BA, et al. 1996. Observation of steady state in blood and urine following human ingestion of hexavalent chromium in drinking water. *J Toxicol Environ Health* 49:453-461.
- Paustenbach DJ, Meyer DM, Sheehan PJ, et al. 1991. An assessment and quantitative uncertainty analysis of the health risks to workers exposed to chromium contaminated soils. *Toxicol Ind Health* 7(3):159-196.
- *Paustenbach DJ, Panko JM, Fredrick MM, et al. 1997. Urinary chromium as a biological marker of environmental exposure: What are the limitations? *Regul Toxicol Pharmacol* 26:S23-S34.
- *Paustenbach DJ, Sheehan PJ, Paull JM, et al. 1992. Review of the allergic contact dermatitis hazard posed by chromium-contaminated soil: Identifying a "safe" concentration. *J Toxicol Environ Health* 37:177-207.
- +Payne WW. 1960. Production of cancers in mice and rats by chromium compounds. *Arch Ind Health* 21:530-535.
- Pedersen NB. 1982. The effects of chromium on the skin. In: Langard S, ed. *Biological and environmental aspects of chromium*. Amsterdam: Elsevier Biomedical Press, 249-275.
- *Pellerin C, Booker SM. 2000. Reflections on hexavalent chrom. Health hazards of an industrial heavyweight. *Environ Health Perspect* 108(9):A403-A407.
- +*Peltonen L, Fraki J. 1983. Prevalence of dichromate sensitivity. *Contact Dermatitis* 9:190-194.
- Penefsky ZJ, Elwood JC. 1996. Mechanical responses of chromium-deficient developing rat heart. *Comp Biochem Physiol* 114A(2):175-187.
- Pereira ML, das Neves RP, Oliveira H, et al. 2005. Effect of Cr(V) on reproductive organ morphology and sperm parameters: An experimental study in mice. *Environ Health* 4(9):1-6.
- *Perrault G, Dufresne A, Strati G, et al. 1995. Physico-chemical fate of chromium compounds in the sheep lung model. *J Toxicol Environ Health* 44:247-262.

9. REFERENCES

- Persson D, Osterberg R, Bjursell G. 1986. Mechanism of chromium carcinogenesis. *Acta Pharmacol Toxicol* 59:260-263.
- Petersen R, Thomsen JF, Jorgensen NK, et al. 2000. Half life of chromium in serum and urine in a former plasma cutter of stainless steel. *Occup Environ Med* 57(2):140-142.
- *Petit A, Mwale F, Zukor DJ, et al. 2004. Effect of cobalt and chromium ions on bcl-2, bax, caspase-3, and caspase-8 expression in human U937 macrophages. *Biomaterials* 25(11):2013-2018.
- Petrilli FL, De Flora S. 1978a. Metabolic deactivation of hexavalent chromium mutagenicity. *Mutat Res* 54:139-147.
- *Petrilli FL, De Flora S. 1978b. Oxidation of inactive trivalent chromium to the mutagenic hexavalent form. *Mutat Res* 58:167-173.
- Petrilli FL, De Flora S. 1987. Correspondence. Carcinogenicity of chromium and its salts. *Br J Ind Med* 44:355.
- *Petrilli FL, Camoirano A, Bennicelli C, et al. 1985. Specificity and inducibility of the metabolic reduction of chromium(VI) mutagenicity by subcellular fractions of rat tissues. *Cancer Res* 45:3179-3187.
- *Petrilli FL, Romano M, Bennicelli C, et al. 1986a. Metabolic reduction and detoxification of hexavalent chromium. In: Serrone DM, ed. *Chromium symposium 1986: An update*. Pittsburgh, PA: Industrial Health Foundation Inc., 112-130.
- *Petrilli FL, Rossi GA, Camoirano A, et al. 1986b. Metabolic reduction of chromium by alveolar macrophages and its relationships to cigarette smoke. *J Clin Invest* 77:1917-1924.
- *Petruzzelli G, Lubrano L, Cervelli S. 1987. Heavy metal uptake by wheat seedlings grown in fly ash-amended soils. *Water Air Soil Pollut* 32:389-395.
- Phan BC, Peyser YM, Reisler E, et al. 1997. Effect of complexes of ADP and phosphate analogs on the conformation of the Cys707-Cys697 region of myosin subfragment 1. *Eur J Biochem* 243:636-642.
- +*PHS. 1953. *Health of workers in chromate producing industry: A study*. Washington, DC: U.S. Public Health Service. Publication no. 192.
- Piela Z, Kiec-Swierczynska M. 1998. [Skin reactivity in subjects sensitive to different concentrations of nickel, chromium, and cobalt.] *Med Pr* 49(5):457-463. (Polish)
- *Pilliere F, Levy F, Renier A, et al. 1992. Induction of DNA-repair synthesis (UDS) in rat pleural mesothelial cells by urine of subjects exposed to genotoxic agents. *Clin Toxicol* 30(2):223-238.
- +*Pippard EC, Acheson ED, Winter PD. 1985. Mortality of tanners. *Br J Ind Med* 42:285-287.
- *Pi-Sunyer F, Offenbacher EG. 1984. Chromium. In: *Present knowledge in nutrition*. 5th ed. Washington, DC: The Nutrition Foundation, Inc., 571-586.
- *Plantz MR, Fritz JS, Smith FG, et al. 1989. Separation of trace metal complexes for analysis of samples of high salt content by inductively coupled plasma mass spectrometry. *Anal Chem* 61:149-153.

9. REFERENCES

- *Polprasert C, Charnpratheep K. 1989. Heavy metal removal in attached-growth waste stabilization ponds. *Water Research* 23(5):625-632.
- Popper HH, Grygar E, Ingolic E, et al. 1993. Cytotoxicity of chromium(III) and (VI) compounds. I. In vitro studies using different cell culture systems. *Inhal Toxicol* 5:345-369.
- Porter R, Jachymova M, Martasek P, et al. 2005. Reductive activation of Cr(VI) by nitric oxide synthase. *Chem Res Toxicol* 18(5):834-843.
- Post GB, Stern AH. 2006. Comments on article "Toxicity and carcinogenicity of chromium compounds in humans" by Costa and Klein. *Crit Rev Toxicol* 36(9):777-778.
- Pourahmad J, Rabiei M, Jokar F, et al. 2005. A comparison of hepatocyte cytotoxic mechanisms for chromate and arsenite. *Toxicology* 206(3):449-460.
- *Powers WJ, Gad SC, Siino KM, et al. 1986. Effects of therapeutic agents on chromium-induced acute nephrotoxicity. In: Serrone DM, ed. *Chromium symposium 1986: An update*. Pittsburgh, PA: Industrial Health Foundation, Inc., 79-86.
- Prabakaran G, Mohan M, Vijayalaksmi N. 2005. Impact of chromium toxicity in dying industry workers. *Pollut Res* 24(3):625-628.
- *Pratt PF, Myers CR. 1993. Enzymatic reduction of chromium(VI) by human hepatic microsomes. *Carcinogenesis* 14(10):2051-2057.
- *Press RI, Geller J, Evans GW. 1990. The effect of chromium picolinate on serum cholesterol and apolipoprotein fractions in human subjects. *West J Med* 152:41-45.
- Preuss HG, Gondal JA, Bustos E, et al. 1995. Effects of chromium and guar on sugar-induced hypertension in rats. *Clin Nephrol* 44(3):170-177.
- Preuss HG, Grojec PL, Lieberman S, et al. 1997. Effects of different chromium compounds on blood pressure and lipid peroxidation in spontaneously hypertensive rats. *Clin Nephrol* 47(5):325-330.
- Preuss HG, Jarrell ST, Scheckenbach R, et al. 1998. Comparative effects of chromium, vanadium and gymnema sylvestre on sugar-induced blood pressure elevations in SHR. *J Am Coll Nutr* 17(2):116-123.
- Pritchard DE, Ceryak S, Ramsey KE, et al. 2005. Resistance to apoptosis, increased growth potential, and altered gene expression in cells that survived genotoxic hexavalent chromium [Cr(VI)] exposure. *Mol Cell Biochem* 279(1-2):169-181.
- Pritchard KA, Ackerman A, Kalyanaraman B. 2000. Chromium (VI) increases endothelial cell expression of ICAM-1 and decreases nitric oxide activity. *J Environ Pathol Toxicol Oncol* 19(3):251-260.
- *Proctor DM, Fredrick MM, Scott PK, et al. 1998. The prevalence of chromium allergy in the United States and its implications for setting soil cleanup: A cost-effectiveness case study. *Regul Toxicol Pharmacol* 28:27-37.

9. REFERENCES

- *Proctor DM, Otani JM, Finley BL, et al. 2002. Is hexavalent chromium carcinogenic via ingestion? A weight-of-evidence review. *J Toxicol Environ Health A* 65(10):701-746.
- Proctor DM, Panko JP, Liebig EW, et al. 2004. Estimating historical occupational exposure to airborne hexavalent chromium in a chromate production plant: 1940-1972. *J Occup Environ Hyg* 1(11):752-767.
- *Pulido MD, Parrish AR. 2003. Metal-induced apoptosis: Mechanisms. *Mutat Res* 533:227-241.
- *Qi W, Reiter RJ, Tan DX, et al. 2000. Chromium(III)-induced 8-hydroxydeoxyguanosine in DNA and its reduction by antioxidants: Comparative effects of melatonin, ascorbate, and vitamin E. (Comment in: *Environ Health Perspect* 109(6):A250). *Environ Health Perspect* 108(5):399-402.
- *Qi WB, Zhu LZ. 1986. Spectrophotometric determination of chromium in waste water and soil. *Talanta* 33(8):694-696.
- *Quievryn G, Goulart M, Messer J, et al. 2001. Reduction of Cr (VI) by cysteine: Significance in human lymphocytes and formation of DNA damage in reactions with variable reduction rates. *Mol Cell Biochem* 222(1-2):107-118.
- Quievryn G, Peterson E, Messer J, et al. 2003. Genotoxicity and mutagenicity of chromium(VI)/ascorbate-generated DNA adducts in human and bacterial cells. *Biochemistry* 42(4):1062-1070.
- Quievryn G, Peterson E, Zhitkovich A. 2004. Mutagenic DNA damage generated by chromium(VI) during its reductive activation with ascorbic acid. In: Cser MA, Sziklai Laszlo I, Etienne JC, et al., eds. *Metal ions in biology and medicine*. 8th ed. Paris: John Libbey Eurotext, 246-249.
- +*Quinteros FA, Poliandri AHB, Machiavelli LI, et al. 2007. *In vivo* and *in vitro* effects of chromium VI on anterior pituitary hormone release and cell viability. *Toxicol Appl Pharmacol* 218:79-87.
- *Radivojevic S, Cooper PA. 2008. Extraction of hexavalent chromium from chromated copper arsenate treated wood under alkaline conditions. *Environ Sci Technol* 42:3739-3744.
- Rafael AI, Almeida A, Parreira I, et al. 2006. An *in vivo* study on the effects of hexavalent chromium contaminated drinking water on rat livers. In: Alpoim MC, Morais PV, Santos MA, et al., eds. *Metal ions in biology and medicine*. Vol. 9. Paris: John Libbey Eurotext, 315-318.
- +*Rafael AI, Almeida A, Santos P, et al. 2007. A role for transforming growth factor-beta apoptotic signaling pathway in liver injury induced by ingestion of water contaminated with high levels of Cr(VI). *Toxicol Appl Pharmacol* 224:163-173.
- *Raffetto G, Parodi S, Parodi C, et al. 1977. Direct interaction with cellular targets as the mechanism for chromium carcinogenesis. *Tumori* 63:503-512.
- +Rafnsson V, Johannesdottir SG. 1986. Mortality among masons in Iceland. *Br J Ind Med* 43:522-525.
- Rafnsson V, Gunnarsdottir H, Kiilunen M. 1997. Risk of lung cancer among masons in Iceland. *Occup Environ Med* 54:184-188.
- *Raithel HJ, Ebner G, Schaller KH. 1987. Problems in establishing norm values for nickel and chromium concentrations in human pulmonary tissue. *Am J Ind Med* 12:55-70.

9. REFERENCES

- Raithel HJ, Schaller KH, Kraus T, et al. 1993. Biomonitoring of nickel and chromium in human pulmonary tissue. *Int Arch Occup Environ Health* 65:S197-S200.
- Rajaram R, Balachandran UN, Ramasami T. 1995. Chromium(III)-induced abnormalities in human lymphocyte cell proliferation: Evidence for apoptosis. *Biochem Biophys Res Commun* 210(2):434-440.
- Ralph S, Petras M. 1998. Caged amphibian tadpoles and in situ genotoxicity monitoring of aquatic environments with the alkaline single cell gel electrophoresis (comet) assay. *Mutat Res* 413:235-250.
- Ramana VV, Sastry KS. Chromium toxicity in *Neurospora Crassa*. *J Inorg Biochem* 56:87-95.
- *Ramelow GJ, Maples RS, Thompson RL, et al. 1987. Periphyton as monitors for heavy metal pollution in the Calcasieu River estuary. *Environ Pollut* 43:247-263.
- *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.
- *Randall JA, Gibson RS. 1987. Serum and urine chromium as indices of chromium status in tannery workers. *Proc Soc Exp Biol Med* 185:16-23.
- *Randall JA, Gibson RS. 1989. Hair chromium as an index of chromium exposure to tannery workers. *Br J Ind Med* 46:171-175.
- *Rao MV, Parekh SS, Chawla SL. 2006. Vitamin-E supplementation ameliorates chromium-and/or nickel induced oxidative stress *in vivo*. *J Health Sci* 52(2):142-147.
- *Räsänen L, Sainio H, Lehto M, et al. 1991. Lymphocyte proliferation test as a diagnostic aid in chromium contact sensitivity. *Contact Dermatitis* 25:25-29.
- *Rasmuson A. 1985. Mutagenic effects of some water-soluble metal compounds in a somatic eye-color test system in *Drosophila melanogaster*. *Mutat Res* 157:157-162.
- Rastogi SC, Pritzi G. 1996. Migration of some toxic metals from crayons and water colors. *Bull Environ Contam Toxicol* 56:527-533.
- Ratnasooriya WD, Balasuriya R. 1992. Effects of trivalent chromium on gestation in rat. *Med Sci Res* 20:475-476.
- *Reddy KR, Chinthamreddy S. 1999. Electrokinetic remediation of heavy metal-contaminated soils under reducing environments. *Waste Manag* 19:269-282.
- +*Reichelderfer TE. 1968. Accidental death of an infant caused by ingestion of ammonium dichromate. *South Med J* 61:96-97.
- Rengasamy A, Kommineni C, Jones JA, et al. 1999. Effects of hard metal on nitric oxide pathways and airway reactivity to methacholine in rat lungs. *Toxicol Appl Pharmacol* 157:178-191.
- *Reynolds M, Zhitkovich A. 2007. Cellular vitamin C increases chromate toxicity via a death program requiring mismatch repair but not p53. *Carcinogenesis* 28(7):1613-1620.

9. REFERENCES

- Reynolds M, Stoddard L, Bespalov I, et al. 2007. Ascorbate acts as a highly potent inducer of chromate mutagenesis and clastogenesis: Linkage to DNA breaks in G2 phase by mismatch repair. *Nucleic Acids Res* 35(2):465-476.
- *Rhodes MC, Hebert CD, Herbert RA, et al. 2005. Absence of toxic effects in F344/N rats and B6C3F1 mice following subchronic administration of chromium picolinate monohydrate. *Food Chem Toxicol* 43(1):21-29.
- *Richelmi P, Baldi C, Minoia C. 1984. Blood levels of hexavalent chromium in rats. *in vitro* and *in vivo* experiments. *Int J Environ Anal Chem* 17(3-4):181-186.
- *Riedel GF, Sanders JG. 1998. Trace element speciation and behavior in the tidal Delaware River. *Estuaries* 21(1):78-90.
- *Rifkin E, Gwinn P, Bouwer E. 2004. Chromium and sediment toxicity. *Environ Sci Technol* 38(14):267A-271A.
- *Robson M. 2003. Methodologies for assessing exposures to metals: Human host factors. *Ecotoxicol Environ Saf* 56:104-109.
- *Rodriguez-Arnaiz R, Martinez RFM. 1986. Genetic effects of potassium dichromate and chromium trioxide in *Drosophila melanogaster*. *Cytologia* 51:421-425.
- +*Roe FJC, Carter RL. 1969. Chromium carcinogenesis: Calcium chromate as a potent carcinogen for the subcutaneous tissues of the rat. *Br J Cancer* 23:172-176.
- Roeback JR, Hla KM, Chambless LE, et al. 1991. Effects of chromium supplementation on serum high-density lipoprotein cholesterol levels in men taking beta-blockers: A randomized, controlled trial. *Ann Intern Med* 115:917-924.
- Rogers CE, Tomita AV, Trowbridge PR, et al. 1997. Hair analysis does not support hypothesized arsenic and chromium exposure from drinking water in Woburn, Massachusetts. *Environ Health Perspect* 105(10):1090-1097.
- *Roginski EE, Mertz W. 1969. Effects of chromium(III) supplementation on glucose and amino acid metabolism in rats fed a low protein diet. *J Nutr* 97:525-530.
- Romaguera C, Vilaplana J. 1998. Contact dermatitis in children: 6 years experience (1992-1997). *Contact Dermatitis* 39:227-280.
- *Rosas I, Belmont R, Baez A, et al. 1989. Some aspects of the environmental exposure to chromium residues in Mexico. *Water Air Soil Pollut* 48:463-476.
- Rosenman KD. 1990. Mortality among former chromium smelter workers (human). U.S. DHHS, Public Health Services, National Institutes of Health, National Institute for Occupational Safety and Health. CRISP Database, July 1990.
- +*Rosenman KD, Stanbury M. 1996. Risk of lung cancer among former chromium smelter workers. *Am J Ind Med* 29:491-500.

9. REFERENCES

- *Roto P, Sainio H, Reunala T, et al. 1996. Addition of ferrous sulfate to cement and risk of chromium dermatitis among construction workers. *Contact Dermatitis* 34:43-50.
- Routledge PA, Bialas MC, Babar I, et al. 1998. Blood arsenic and chromium concentrations after dermal exposure to tannalysing fluid and the use of DMPs. *J Toxicol Clin Toxicol* 36(5):494-495.
- +*Royle H. 1975a. Toxicity of chromic acid in the chromium plating industry (1). *Environ Res* 10:39-53.
- +*Royle H. 1975b. Toxicity of chromic acid in the chromium plating industry (2). *Environ Res* 10:141-163.
- *Rubin MA, Miller JP, Ryan AS, et al. 1998. Acute and chronic resistive exercise increase urinary chromium excretion in men as measured with an enriched chromium stable isotope. *J Nutr* 128:73-78.
- Rudolf E, Cervinka M. 2006. The role of intracellular zinc in chromium(VI)-induced oxidative stress, DNA damage and apoptosis. *Chem Biol Interact* 162(3):212-227.
- Rudolf E, Cervinka M, Cerman J. 2005a. Zinc has ambiguous effects on chromium (VI)-induced oxidative stress and apoptosis. *J Trace Elem Med Biol* 18(3):251-260.
- Rudolf E, Cervinka M, Cerman J, et al. 2005b. Hexavalent chromium disrupts the actin cytoskeleton and induces mitochondria-dependent apoptosis in human dermal fibroblasts. *Toxicol In Vitro* 19(6):713-723.
- Rungby J, Ernst E. 1991. Experimentally induced lipid peroxidation after exposure to chromium, mercury or silver: Interactions with carbon tetrachloride. *Pharmacol Toxicol* 70:205-207.
- *Russo P, Catassi A, Cesario A, et al. 2005. Molecular mechanisms of hexavalent chromium-induced apoptosis in human bronchoalveolar cells. *Am J Respir Cell Mol Biol* 33(6):589-600.
- Ryberg D, Alexander J. 1990. Mechanisms of chromium toxicity in mitochondria. *Chem Biol Interact* 75:141-151.
- Saha M, Sarkar SK, Bhattacharya B. 2006. Interspecific variation in heavy metal body concentrations in biota of Sunderban mangrove wetland, northeast India. *Environ Int* 32:203-207.
- *Sahuquillo A, Rigol A, Rauret G. 2003. Overview of the use of leaching/extraction tests for risk assessment of trace metals in contaminated soils and sediments. *TrAC Trends Anal Chem* 22(3):152-159.
- Sakai K, Uchida R. 1992. Comparative effects of potassium dichromate on the mutagenicity of some nitrohydrocarbons and methylating agents. *Bull Environ Contam Toxicol* 48:541-548.
- *Saleh FY, Parkerton TF, Lewis RV, et al. 1989. Kinetics of chromium transformations in the environment. *Sci Total Environ* 86:25-41.
- Salnikow K, Zhitkovich A. 2008. Genetic and epigenetic mechanisms in metal carcinogenesis and cocarcinogenesis: Nickel, arsenic, and chromium. *Chem Res Toxicol* 21(1):28-44.
- Salnikow K, Zhitkovich A, Costa M. 1992. Analysis of the binding sites of chromium to DNA and protein *in vitro* and in intact cells. *Carcinogenesis* 13(12):2341-2346.

9. REFERENCES

- *Saltzman BE, Cholak J, Schafer LJ, et al. 1985. Concentration of six metals in the air of eight cities. *Environ Sci Technol* 19:328-333.
- Samet JM, Graves LM, Quay J, et al. 1998. Activation of MAPKs in human bronchial epithelial cells exposed to metals. *Am J Physiol* 275(3):L551-L558.
- +*Samitz MH. 1970. Ascorbic acid in the prevention and treatment of toxic effects from chromates. *Acta Derm Venereol* 50:59-64.
- +*Samitz MH, Epstein E. 1962. Experimental cutaneous chrome ulcers in guinea pigs. *Arch Environ Health* 5:69-74.
- +*Samitz MH, Shrager J. 1966. Patch test reactions to hexavalent and trivalent chromium compounds. *Arch Dermatol* 94:304-306.
- +Samitz MH, Gross S, Katz S. 1962. Inactivation of chromium ion in allergic eczematous dermatitis. *J Invest Dermatol* 38:5-12.
- +Sander JK, Camp CD. 1939. Chromium poisoning in infancy. *Am J Med Sci* 198:551-554.
- Sanderson CJ. 1976. The uptake and retention of chromium by cells. *Transplantation* 21:526-529.
- *Saner G, Yuzbasiyan V, Cigdem S. 1984. Hair chromium concentration and chromium excretion in tannery workers. *Br J Ind Med* 41:263-266.
- Saraswathy CP, Usharani MV. 2007. Monitoring of cellular enzymes in the serum of electroplating workers at Coimbatore. *J Environ Biol* 28(2):287-290.
- +Sargent T, Lim TH, Jenson R. 1979. Reduced chromium retention in patients with hemochromatosis, a possible basis of hemochromatotic diabetes. *Metabolism* 28:70-79.
- *Sarkar D, Sharma A, Talukder G. 1993. Differential protection of chlorophyllin against clastogenic effects of chromium and chlordane in mouse bone marrow in vivo. *Mutat Res* 301:33-38.
- *Sarto F, Levis AG, Paulon C. 1980. Clastogenic activity of hexavalent and trivalent chromium in cultured human lymphocytes. *Caryologia* 33:239-250.
- *Sarto F, Cominato I, Bianchi V, et al. 1982. Increased incidence of chromosomal aberrations and sister chromatid exchanges in workers exposed to chromic acid (CrO₃) in electroplating factories. *Carcinogenesis* 3(9):1011-1016.
- +*Saryan LA, Reedy M. 1988. Chromium determinations in a case of chromic acid ingestion. *J Anal Toxicol* 12:162-164.
- +*Sassi C. 1956. [Occupational pathology in a chromate plant.] *Med Lav* 47(5):314-327. (Italian)
- Sastre J, Fernandez-Nieto M, Maranon F, et al. 2001. Allergenic cross-reactivity between nickel and chromium salts in electroplating-induced asthma. *J Allergy Clin Immunol* 108(4):650-651.

9. REFERENCES

- *Sata F, Araki S, Murata K, et al. 1998. Behavior of heavy metals in human urine and blood following calcium disodium ethylenediamine tetraacetate injection: Observations in metal workers. *J Toxicol Environ Health, A* 54:167-178.
- *Sathwara NG, Patel KG, Vyas JB, et al. 2007. Chromium exposure study in chemical based industry. *J Environ Biol* 28(2):405-408.
- Sato H, Murai K, Kanda T, et al. 2003. Association of chromium exposure with multiple primary cancers in the nasal cavity. *Auris Nasus Larynx* 30(1):93-96.
- +*Sato K, Fukuda Y, Torrii K, et al. 1981. Epidemiological study of workers engaged in the manufacture of chromium compounds. *J Occup Med* 23(12):835-838.
- +*Sato N, Fukuda S, Takizawa M, et al. 1994. Chromium-induced carcinoma in the nasal region. A report of four cases. *Rhinology* 32:47-50.
- Satsuma S, Scudamore RA, Cooke TDV, et al. 1993. Toxicity of complement for chondrocytes. A possible source of cartilage degradation in inflammatory arthritis. *Rheumatol Int* 13:71-75.
- Savery LC, Grlickova-Duzevik E, Wise SS, et al. 2007. Role of the Fancg gene in protecting cells from particulate chromate-induced chromosome instability. *Mutat Res* 626(1-2):120-127.
- *Sawatari K. 1986. Sampling filters and dissolution methods for differential determination of water-soluble chromium(VI) and chromium(III) in particulate substances. *Ind Health* 24:111-116.
- +*Saxena DK, Murthy RC, Jain VK, et al. 1990a. Fetoplacental-maternal uptake of hexavalent chromium administered orally in rats and mice. *Bull Environ Contam Toxicol* 45:430-435.
- Saxena DK, Murthy RC, Lal B, et al. 1990b. Effect of hexavalent chromium on testicular maturation in the rat. *Reprod Toxicol* 4:223-228.
- +*Sayato Y, Nakamuro K, Matsui S, et al. 1980. Metabolic fate of chromium compounds. I. Comparative behavior of chromium in rat administered with $\text{Na}_2^{51}\text{CrO}_4$ and $^{51}\text{CrCl}_3$. *J Pharm Dyn* 3:17-23.
- *Schaller H, Neeb R. 1987. Gas-chromatographic elemental analysis via di(trifluoroethyl)dithiocarbamate-3 chelates X. Capillary gas chromatography at the pg-level determination of Co and Cr[VI] besides Cr[III] in river water. *Fresenius Z Analytical Chemistry* 327:170-174.
- Schmid M, Zimmermann S, Krug HG, et al. 2007. Influence of platinum, palladium and rhodium as compared with cadmium, nickel and chromium on cell viability and oxidative stress in human bronchial epithelial cells. *Environ Int* 33(3):385-390.
- *Schmidt JA, Andren AW. 1984. Deposition of airborne metals into the Great Lakes: An evaluation of past and present estimates. *Adv Environ Sci Technol* 14:81-103.
- Schnekenburger M, Talaska G, Puga A. 2007. Chromium cross-links histone deacetylase 1-DNA methyltransferase 1 complexes to chromatin, inhibiting histone-remodeling marks critical for transcriptional activation. *Mol Cell Biol* 27(20):7089-7101.

9. REFERENCES

- *Schonwald S. 2004. Chromium. In: Dart RC, ed. Medical toxicology. 3rd ed. Philadelphia, PA: Lippicott Williams & Wilkins, 415-1417.
- +*Schroeder HA, Balassa JJ, Tipton IH. 1962. Abnormal trace metals in man — Chromium. *J Chron Dis* 15:941-964.
- +*Schroeder HA, Balassa JJ, Vinton WH. 1964. Chromium, lead, cadmium, nickel and titanium in mice: Effect on mortality, tumors and tissue levels. *J Nutr* 83:239-250.
- +*Schroeder HA, Balassa JJ, Vinton WH. 1965. Chromium, cadmium and lead in rats: Effects on life span, tumors and tissue levels. *J Nutr* 86:51-66.
- +Schroeder HA, Vinton WH, Balassa JJ. 1963. Effect of chromium, cadmium and other trace metals on the growth and survival of mice. *J Nutr* 80:39-47.
- *Schroeder WH, Dobson M, Kane DM, et al. 1987. Toxic trace elements associated with airborne particulate matter: A review. *J Air Pollut Control Assoc* 37(11):1267-1285.
- *Schuhmacher M, Domingo JL, Llobet JM, et al. 1993. Chromium, copper, and zinc concentrations in edible vegetables grown in Tarragona Province, Spain. *Bull Environ Contam Toxicol* 50:514-521.
- Schwarz Y, Kivity S, Fischbein A, et al. 1998. Evaluation of workers exposed to dust containing hard metals and aluminum oxide. *Am J Ind Med* 34:177-182.
- Scibior A. 2005. Some selected blood parameters in rats exposed to vanadium and chromium via drinking water. *Trace Elem Electrolytes* 22(1):40-46.
- Scibior A, Zaporowska H. 2007. Effects of vanadium(V) and/or chromium(III) on L-ascorbic acid and glutathione as well as iron, zinc, and copper levels in rat liver and kidney. *J Toxicol Environ Health A* 70(8):696-704.
- *Scott PK, Proctor DM. 1997. Evaluation of 10% minimum elicitation threshold for Cr(VI)-induced allergic contact dermatitis using benchmark dose methods. *J Soil Contam* 6(6):707-731.
- *Scott PK, Finley BL, Harris MA, et al. 1997a. Background air concentrations of Cr(VI) in Hudson County, New Jersey: Implications for setting health-based standards for Cr(VI) in soil. *J Air Waste Manage Assoc* 47:592-600.
- *Scott PK, Finley BL, Sung HM, et al. 1997b. Identification of an accurate soil suspension/dispersion modeling method for use in estimating health-based soil cleanup levels of hexavalent chromium in chromite ore processing residues. *J Air Waste Manage Assoc* 47:753-765.
- Seaborn CD, Cheng N, Adeleye B, et al. 1994. Chromium and chronic ascorbic acid depletion effects on tissue ascorbate, manganese, and ¹⁴C retention from ¹⁴C-ascorbate in guinea pigs. *Biol Trace Elem Res* 41:279-294.
- *Sedman RM, Beaumont J, McDonald TA, et al. 2006. Review of the evidence regarding the carcinogenicity of hexavalent chromium in drinking water. *J Environ Sci Health Part C Environ Carcinogen Rev* 24(1):155-182.

9. REFERENCES

Seel EA, Zaebs DD, Hein MJ, et al. 2007. Inter-rater agreement for a retrospective exposure assessment of asbestos, chromium, nickel and welding fumes in a study of lung cancer and ionizing radiation. *Ann Occup Hyg* 51(7):601-610.

*Seigneur C, Constantinos E. 1995. Chemical kinetic mechanism for atmospheric chromium. *Environ Sci Technol* 29:222-231.

Seldén AI, Persson B, Bornberger-Dankvardt SI, et al. 1995. Exposure to cobalt chromium dust and lung disorders in dental technicians. *Thorax* 50:769-772.

Sen P, Conway K, Costa M. 1987. Comparison of the localization of chromosome damage induced by calcium chromate and nickel compounds. *Cancer Res* 47:2142-2147.

*Seoane AI, Dulout FN. 1999. Contribution to the validation of the anaphase-telophase test: Aneugenic and clastogenic effects of cadmium sulfate, potassium dichromate and nickel chloride in Chinese hamster ovary cells. *Genet Mol Biol* 22(4):551-555.

Seoane AI, Dulout FN. 2001. Genotoxic ability of cadmium, chromium and nickel salts studied by kinetochore staining in the cytokinesis-blocked micronucleus assay. *Mutat Res* 490(2):99-106.

*Setchell BP, Waites GMH. 1975. The blood testis barrier. In: Creep RO, Astwood EB, eds. *Handbook of physiology: Endocrinology V*. Washington, DC: American Physiological Society. 143-172.

*Shah M, Palmer IR. 2002. An ultrastructural study of chronic chromate hand dermatitis. *Acta Derm Venereol* 82(4):254-259.

*Shanker AK, Cervantes C, Loza-Tavera H, et al. 2005. Chromium toxicity in plants. *Environ Int* 31: 739-753.

+*Shara M, Kincaid AE, Limpach AL, et al. 2007. Long-term safety evaluation of a novel oxygen-coordinated niacin-bound chromium (III) complex. *J Inorg Biochem* 101(7):1059-1069.

+*Shara M, Yasmin T, Kincaid AE, et al. 2005. Safety and toxicological evaluation of a novel niacin-bound chromium (III) complex. *J Inorg Biochem* 99(11):2161-2813.

Sharma VK, Chakrabarti A. 1998. Common contact sensitizers in Chandigarh, India. *Contact Dermatitis* 38:127-131.

+*Sharma BK, Singhal PC, Chugh KS. 1978. Intravascular haemolysis and acute renal failure following potassium dichromate poisoning. *Postgrad Med J* 54:414-415.

Sheehan HE. 1995. An urban community faces an environmental hazard: "Let them eat chromium"? *Mt Sinai J Med* 62(5):332-338.

*Sheehan P, Ricks R, Ripple S, et al. 1992. Field evaluation of a sampling and analytical method for environmental levels of airborne hexavalent chromium. *Am Ind Hyg Assoc J* 53(1):57-68.

Sheehan PJ, Meyer DM, Sauer MM, et al. 1991. Assessment of the human health risks posed by exposure to chromium-contaminated soils. *J Toxicol Environ Health* 32:161-201.

9. REFERENCES

- +*Sheffet A, Thind I, Miller AM, et al. 1982. Cancer mortality in a pigment plant utilizing lead and zinc chromates. *Arch Environ Health* 37:44-52.
- *Shelnutt SR, Goad P, Belsito DV. 2007. Dermatological toxicity of hexavalent chromium. *Crit Rev Toxicol* 37(5):375-387.
- *Sheppard MI, Thibault DH. 1991. A four-year mobility study of selected trace elements and heavy metals. *J Environ Qual* 20:101-114.
- *Sheppard SC, Evenden WG, Schwartz WJ. 1995. Heavy metals in the environment: Ingested soil: Bioavailability of sorbed lead, cadmium, cesium, iodine, and mercury. *J Environ Qual* 24:498-505.
- *Sheridan PJ, Zoller WH. 1989. Elemental composition of particulate material sampled from the Arctic haze aerosol. *J Atmospher Chem* 9:363-381.
- Shi X, Chiu A, Chen CT, et al. 1999a. Reduction of chromium(VI) and its relationship to carcinogenesis. *J Toxicol Environ Health* 2(part B):87-104.
- *Shi X, Dalal NS, Kasprzak KS. 1993. Generation of free radicals from hydrogen peroxide and lipid hydroperoxides in the presence of Cr(III). *Arch Biochem Biophys* 302(1):294-291.
- Shi X, Ding M, Ye J, et al. 1999b. Cr(VI) causes activation of nuclear transcription factor-KB, DNA strand breaks and dG hydroxylation via free radical reactions. *J Inorg Biochem* 75:37-44.
- *Shi X, Dong Z, Dalal NS, et al. 1994. Chromate-mediated free radical generation from cysteine, penicillamine, hydrogen peroxide, and lipid hydroperoxides. *Biochim Biophys Acta* 1226:65-72.
- *Shi X, Leonard SS, Liu KJ, et al. 1998. Cr(III)-mediated hydroxyl radical generation via Haber-Weiss cycle. *J Inorg Biochem* 69:263-268.
- Shiao YH, Crawford EB, Anderson LM, et al. 2005. Allele-specific germ cell epimutation in the spacer promoter of the 45S ribosomal RNA gene after Cr(III) exposure. *Toxicol Appl Pharmacol* 205:290-296.
- +Shimkin MB, Leiter J. 1940. Induced pulmonary tumors in mice. III. The role of chronic irritation in the production of pulmonary tumors in strain A mice. *J Natl Cancer Inst* 1:241-254.
- *Shindo Y, Toyoda Y, Kawamura K, et al. 1989. Micronucleus test with potassium chromate(VI) administered intraperitoneally and orally to mice. *Mutat Res* 223:403-406.
- *Shmitova LA. 1978. [The course of pregnancy in women engaged in the production of chromium and its compounds.] *Vliy Prof Fakt Spet Funk Zhensk Organ, Sverd* 108-111. (Russian)
- +*Shmitova LA. 1980. [Content of hexavalent chromium in the biological substrates of pregnant women and women in the immediate post-natal period engaged in the manufacture of chromium compounds.] *Gig Trud Prof Zabol* 2:33-35. (Russian)
- Shrivastava R, Kannan A, Upreti RK, et al. 2005. Effects of chromium on the resident gut bacteria of rat. *Toxicol Mech Methods* 15(3):211-218.
- *Shrivastava R, Upreti RK, Seth PK, et al. 2002. Effects of chromium on the immune system. *FEMS Immunol Med Microbiol* 34:1-7.

9. REFERENCES

- +*Shubochkin LN, Pokhodzie YI. 1980. Toxic properties of strontium chromate. *Gig Sanit* 45:76-77.
- Shumilla JA, Barchowsky A. 1999. Inhibition of protein synthesis by chromium(VI) differentially affects expression of urokinase and its receptor in human type II pneumocytes. *Toxicol Appl Pharmacol* 158:288-295.
- Shumilla JA, Broderick RJ, Wang Y, et al. 1999. Chromium(VI) inhibits the transcriptional activity of nuclear factor- κ B by decreasing the interaction of p65 with cAMP-responsive element-binding protein-binding protein. *J Biol Chem* 274(51):36207-36212.
- *Shumilla JA, Wetterhahn KE, Barchowsky A. 1998. Inhibition of NF- κ B binding to DNA by chromium, cadmium, mercury, zinc, and arsenite *in vitro*: Evidence of a thiol mechanism. *Arch Biochem Biophys* 349(2):356-362.
- Shupack SI. 1991. The chemistry of chromium and some resulting analytical problems. *Environ Health Perspect* 92:7-11.
- +*Siegel NJ, Gaudio KM, Katz LA, et al. 1984. Beneficial effect of thyroxin on recovery from toxic acute renal failure. *Kidney Int* 25:906-911.
- +*Silverstein M, Mirer F, Kotelchusk D, et al. 1981. Mortality among workers in a die-casting and electroplating plant. *Scand J Work Environ Health* 7(suppl 4):156-165.
- *Simonoff M, Llabador Y, Hamon C, et al. 1984. Extraction procedure for the determination of trace chromium in plasma by proton-induced x-ray emission spectrometry. *Anal Chem* 56:454-457.
- +*Simpson JR, Gibson RS. 1992. Hair, serum, and urine chromium concentrations in former employees of the leather tanning industry. *Biol Trace Elem Res* 32:155-159.
- *Singh I. 1983. Induction of reverse mutation and mitotic gene conversion by some metal compounds in *Saccharomyces cerevisiae*. *Mutat Res* 117:149-152.
- *Singh J, Carlisle DL, Pritchard DE, et al. 1998a. Chromium-induced genotoxicity and apoptosis: Relationship to chromium carcinogenesis (review). *Oncology Reports* 5:1307-1318.
- *Singh J, McLean JA, Pritchard DE, et al. 1998b. Sensitive quantitation of chromium-DNA adducts by inductively coupled plasma mass spectrometry with a direct injection high-efficiency nebulizer. *Toxicological Sciences* 46:260-265.
- *Singh J, Pritchard DE, Carlisle DL, et al. 1999. Internalization of carcinogenic lead chromate particles by cultured normal human lung epithelial cells: Formation of intracellular lead-inclusion bodies and induction of apoptosis. *Toxicol Appl Pharmacol* 161:240-248.
- +*Sipowicz MA, Anderson LM, Utermahlen WE, et al. 1997. Uptake and tissue distribution of chromium(III) in mice after a single intraperitoneal or subcutaneous administration. *Toxicol Lett* 93:9-14.
- Sirover MA, Loeb LA. 1976. Infidelity of DNA synthesis *in vitro*: Screening for potential metal mutagens or carcinogens. *Science* 194:1434-1436.

9. REFERENCES

- +Sjogren B. 1980. A retrospective cohort study of mortality among stainless steel welders. *Scand J Work Environ Health* 6:197-200.
- +*Sjogren B, Gustavsson A, Hedstrom L. 1987. Mortality in two cohorts of welders exposed to high- and low-levels of hexavalent chromium. *Scand J Work Environ Health* 13:247-251.
- *Sjogren B, Hedstrom L, Ulfvarson U. 1983. Urine chromium as an estimator of air exposure to stainless steel welding fumes. *Int Arch Occup Environ Health* 51:347-354.
- +*Sluis-Cremer GK, du Toit RSJ. 1968. Pneumoconiosis in chromite miners in South Africa. *Br J Ind Med* 25:63-67.
- Smailyte G, Kurtinaitis J, Andersen A. 2004. Mortality and cancer incidence among Lithuanian cement producing workers. *Occup Environ Med* 61:529-534.
- Smith AH. 2008. Hexavalent chromium, yellow water, and cancer: A convoluted saga. (Comment on: *Epidemiology* 19(1):12-23). *Epidemiology* 19(1):24-26.
- +*Smith AR. 1931. Chrome poisoning with manifestation of sensitization. *J Am Med Assoc* 97(2):95-98.
- *Smith, RA, Alexander RB, Wolman MG. 1987. Water-quality trends in the nation's rivers. *Science* 235:1607-1615.
- +*Smyth HF, Carpenter CP, Weil CS, et al. 1969. Range finding toxicity data: List VII. *Am Ind Hyg Assoc J* 30:470-476.
- *Snow ET. 1991. A possible role of chromium(III) in genotoxicity. *Environ Health Perspect* 92:75-81.
- *Snow ET, Xu SL. 1989. Effects of chromium(III) on DNA replication in vitro. *Biological Trace Element Res* 21:61-71.
- +*Snyder CA, Valle CD. 1991. Immune function assays as indicators of chromate exposure. *Environ Health Perspect* 92:83-86.
- +Snyder CA, Sellakumar A, Waterman S. 1997. An assessment of the tumorigenic properties of a Hudson County soil sample heavily contaminated with hexavalent chromium. *Arch Environ Health* 52(3):220-226.
- +*Snyder CA, Udasin I, Waterman SJ, et al. 1996. Reduced IL-6 levels among individuals in Hudson County, New Jersey, an area contaminated with chromium. *Arch Environ Health* 51(1):26-28.
- Soko L, Cukrowska E, Chimuka L. 2002. Extraction and preconcentration of Cr(VI) from urine using supported liquid membrane. *Anal Chim Acta* 474(1-2):59-68.
- Solano-Serena F, Marchal R, Ropars M, et al. 1999. Biodegradation of gasoline: Kinetics, mass balance and fate of individual hydrocarbons. *J Appl Microbiol* 86(6):1008-1016.
- +*Sorahan T, Burges DCL, Hamilton L, et al. 1998. Lung cancer mortality in nickel/chromium platers, 1946-95. *Occup Environ Med* 55:236-242.

9. REFERENCES

- +*Sorahan T, Burges DCL, Waterhouse JAH. 1987. A mortality study of nickel/chromium platers. *Br J Ind Med* 44:250-258.
- +Sparrow S, Magos L, Snowden R. 1988. The effect of sodium chromate pretreatment on mercuric chloride-induced nephrotoxicity. *Arch Toxicol* 61:440-443.
- Spengler JD, Koutrakis P, Dockery DW, et al. 1996. Health effects of acid aerosols on North American children: Air pollution exposures. *Environ Health Perspect* 104(5):492-499.
- Spicer MT, Stoecker BJ, Chen T, et al. 1998. Maternal and fetal insulin-like growth factor system and embryonic survival during pregnancy in rats: Interaction between dietary chromium and diabetes. *J Nutr* 128:2341-2347.
- *Spruit D, van Neer FCJ. 1966. Penetration of Cr(III) and Cr(VI). *Dermatologica* 132:179-182.
- *SRI. 1997. Directory of chemical producers: United States of America. Menlo Park, CA: Stanford Research Institute International, 518-519.
- *SRI. 2007. 2007 Directory of chemical producers. Menlo Park, CA: SRI Consulting. Access Intelligence, LLC., 526-527.
- +Srivastava L, Jain VK, Kachru DN, et al. 1985. Comparative toxicity of trivalent and hexavalent chromium(V): Enzymatic alterations in rat liver and kidneys. *Ind Health* 23:89-94.
- Srivastava S, Shanker K, Prakash S, et al. 1999. Bioavailability of chromium: An interactive aspect. *J Environ Biol* 20(1):49-54.
- *Stackhouse RA, Benson WH. 1989. The effect of humic acid on the toxicity and bioavailability of trivalent chromium. *Ecotoxicol Environ Safety* 17:105-111.
- Stackpole MM, Wise SS, Goodale BC, et al. 2007. Homologous recombination repair protects against particulate chromate-induced chromosome instability in Chinese hamster cells. *Mutat Res* 625(1-2):145-154.
- State of California. 1991. Memorandum from Lauren Zeise, Reproductive and Cancer Hazard Assessment Section to Steven A. Book, Health Hazard Assessment Division. Department of Health Services, State of California, June 11, 1991.
- *Stearns DM. 2000. Is chromium a trace essential metal? *Biofactors* 11(3):149-162.
- Stearns DM, Wetterhahn KE. 1997. Intermediates produced in the reaction of chromium(VI) with dehydroascorbate cause single-strand breaks in plasmid DNA. *Chem Res Toxicol* 10:271-278.
- +*Stearns DM, Belbruno JJ, Wetterhaun KE. 1995a. A prediction of chromium(III) accumulation in humans from chromium dietary supplements. *FASEB J* 9:1650-1657.
- *Stearns DM, Courtney KD, Giangrande PH, et al. 1994. Chromium (VI) reduction by ascorbate: Role of reactive intermediates in DNA damage in vitro. *Environ Health Perspect* 102:21-25.

9. REFERENCES

- *Stearns DM, Silveira SM, Wolf KK, et al. 2002. Chromium(III) tris(picolinate) is mutagenic at the hypoxanthine (guanine) phosphoribosyltransferase locus in Chinese hamster ovary cells. *Mutat Res* 513(1-2):135-142.
- *Stearns DM, Wise JP, Patierno SR, Wetterhahn KE. 1995b. Chromium(III) picolonate produces chromosome damage in Chinese hamster ovary cells. *FASEB J* 9:1643-1649.
- *Steenland K, Loomis D, Shy C, et al. 1996. Review of occupational lung carcinogens. *Am J Ind Med* 29:474-490.
- +*Steffee CH, Baetjer AM. 1965. Histopathologic effects of chromate chemicals. *Arch Environ Health* 11:66-75.
- +*Steinhoff D, Gad SC, Hatfield GK, et al. 1986. Carcinogenicity studies with sodium dichromate in rats. *Exp Pathol* 30:129-141.
- *Stella M, Montaldi A, Rossi R, et al. 1982. Clastogenic effects of chromium on human lymphocytes in vitro and in vivo. *Mutat Res* 101:151-164.
- +*Stereckova NP, Zeleneva NI, Solomina SN et al. 1978. [Gastric pathology in the workers of chromium salts industries.] *Gig Trud Prof Zabol* 3:19-23. (Russian)
- +*Stern AH, Bagdon RE, Hazen RE, et al. 1993. Risk assessment of the allergic dermatitis potential of environmental exposure to hexavalent chromium. *J Toxicol Environ Health* 40:613-641.
- Stern AH, Fagliano JA, Savrin JE, et al. 1998. The association of chromium in household dust with urinary chromium in residences adjacent to chromate production waste sites. *Environ Health Perspect* 106(12):833-839.
- +*Stern FB, Beaumont JJ, Halperin WE, et al. 1987. Mortality of chrome leather tannery workers and chemical exposures in tanneries. *Scand J Work Environ Health* 13:108-117.
- Stern RM. 1981. Process-dependent risk of delayed health effects for welders. *Environ Health Perspect* 41:235-253.
- *Stern RM. 1982. Chromium compounds: Production and occupational exposure. In: Langard S, ed. *Biological and environmental aspects of chromium*. New York, NY: Elsevier Biomedical Press, 5-47.
- *Stern RM, Thomsen E, Furst A. 1984. Cr(VI) and other metallic mutagens in fly ash and welding fumes. *Toxicol Environ Chem* 8:95-108.
- Stift A, Friedl J, Laengle F. 1998. Liver transplantation for potassium dichromate poisoning. *N Engl J Med* 338(11):766-767.
- *Stilwell DE, Gorny KD. 1997. Contamination of soil with copper, chromium, and arsenic under decks built from pressure treated wood. *Bull Environ Contam Toxicol* 58:22-29.
- Stohs SJ, Bagchi D, Hassoun E, et al. 2000. Oxidative mechanisms in the toxicity of chromium and cadmium ions. *J Environ Pathol Toxicol Oncol* 19(3):201-213.

9. REFERENCES

- Stohs SJ, Bagchi D, Hassoun E, et al. 2001. Oxidative mechanisms in the toxicity of chromium and cadmium ions. *J Environ Pathol Toxicol Oncol* 20(2):77-88.
- Stokes DL, Lacapare JJ. 1994. Conformation of Ca²⁺-ATPase in two crystal forms. *J Biol Chem* 269(15):11606-11613.
- *Stokinger HE. 1981. Chromium, Cr. In: Clayton GD, Clayton FE, eds. *Patty's industrial hygiene and toxicology*. Vol. IIA, 3rd ed. New York, NY: John Wiley & Sons, 1589-1605.
- *Stridsklev IC, Schaller K, Langard S. 2004. Monitoring of chromium and nickel in biological fluids of stainless steel welders using the flux-cored-wire (FCW) welding method. *Int Arch Occup Environ Health* 77(8):587-591.
- Stridsklev IC, Schaller K, Langard S. 2007. Monitoring of chromium and nickel in biological fluids of grinders grinding stainless steel. *Int Arch Occup Environ Health* 80(5):450-454.
- Striffler JS, Law JS, Polansky MM, et al. 1995. Chromium improves insulin response to glucose in rats. *Metabolism* 44(10):1314-1320.
- Štupar J, Dolinšek F. 1996. Determination of chromium, manganese, lead and cadmium in biological samples including hair using direct electrothermal atomic absorption spectrometry. *Spectrochim Acta Part B* 51:665-683.
- Stupar J, Vrtovec M, Kocijancic A, et al. 1999. Chromium status of tannery workers in relation to metabolic disorders. *J Appl Toxicol* 19:437-446.
- Subiyatno A, Mowat DN, Yang WZ. 1996. Metabolite and hormonal responses to glucose or propionate infusions in periparturient dairy cows supplemented with chromium. *J Dairy Sci* 79:1436-1445.
- +*Subramanian S, Rajendiran G, Sekhar P, et al. 2006. Reproductive toxicity of chromium in adult bonnet monkeys (*Macaca radiata* Geoffrey). Reversible oxidative stress in the semen. *Toxicol Appl Pharmacol* 215:237-249.
- Sugden KD, Stearns DM. 2000. The role of chromium(V) in the mechanism of chromate-induced oxidative DNA damage and cancer. *J Environ Pathol Toxicol Oncol* 19(3):215-230.
- Sugden KD, Wetterhahn KE. 1997. Direct and hydrogen peroxide-induced chromium(V) oxidation of deoxyribose in single-stranded and double-stranded calf thymus DNA. *Chem Res Toxicol* 10:1397-1406.
- *Sugden KD, Burris RB, Rogers SJ. 1990. An oxygen dependence in chromium mutagenesis. *Mutat Res* 244:239-244.
- Sugden KD, Geer RD, Rogers SJ. 1992. Oxygen radical-mediated DNA damage by redox-active Cr(III) complexes. *Biochemistry* 31:11626-11631.
- Sugden KD, Rigby KM, Martin BD. 2004. Oxidative activation of the human carcinogen chromate by arsenite: A model for synergistic metal activation leading to oxidative DNA damage. *Toxicol In Vitro* 18(6):741-748.
- Sugiyama M. 1989. Effects of vitamin E and vitamin B₂ on chromate-induced DNA lesions. *Biol Trace Elem Res* 21:399-404.

9. REFERENCES

- *Sugiyama M. 1991. Effects of vitamins on chromium(VI)-induced damage. *Environ Health Perspect* 92:63-70.
- *Sugiyama M, Tsuzuki K. 1994. Effect of glutathione depletion on formation of paramagnetic chromium in Chinese hamster V-79 cells. *FEBS Lett* 341:273-276.
- Sugiyama M, Ando A, Nakao K, et al. 1989. Influence of vitamin B₂ on formation of chromium(V), alkali-labile sites, and lethality of sodium chromate(VI) in Chinese hamster V-70 cells. *Cancer Res* 49:6180-6184.
- Sugiyama M, Ando A, Ogura R. 1989. Effect of vitamin E on survival, glutathione reductase and formation of chromium(V) in Chinese hamster V-79 cells treated with sodium chromate(VI). *Carcinogenesis* 10:737-741.
- *Sugiyama M, Patierno SR, Cantoni O, et al. 1986a. Characterization of DNA lesions induced by CaCrO₄ in synchronous and asynchronous cultured mammalian cells. *Mol Pharmacol* 29:606-613.
- Sugiyama M, Tsuzuki K, Haramaki N. 1993. Influence of o-phenanthroline on DNA single-strand breaks, alkali-labile sites, glutathione reductase, and formation of chromium(V) in Chinese hamster V-79 cells treated with sodium chromate(VI). *Arch Biochem Biophys* 305(2):261-266.
- Sugiyama M, Wang XW, Costa M. 1986b. Comparison of DNA lesions and cytotoxicity induced by calcium chromate in human, mouse, and hamster cell lines. *Cancer Res* 46:4547-4551.
- +*Sullivan MF, Miller BM, Goebel JC. 1984. Gastrointestinal absorption of metals (⁵¹Cr, ⁶⁵Zn, ^{95m}Tc, ¹⁰⁹Cd, ¹¹³Sn, ¹⁴⁷Pm, and ²³⁸Pu) by rats and swine. *Environ Res* 35:439-453.
- Sullivan PA, Eisen EA, Woskie SR, et al. 1998. Mortality studies of metalworking fluid exposure in the automobile industry: VI. A case-control study of esophageal cancer. *Am J Ind Med* 34:36-48.
- Sunderman FW. 1976. A review of the carcinogenicities of nickel, chromium and arsenic compounds in man and animals. *Prev Med* 5:279-294.
- *Sunderman FW, Hopfer SM, Swift T, et al. 1989. Cobalt, chromium, and nickel concentrations in body fluids of patients with porous-coated knee or hip prostheses. *J Orthop Res* 7:307-315.
- Susa N, Ueno S, Furukawa Y, et al. 1997a. Potent protective effect of melatonin on chromium(VI)-induced DNA single-strand breaks, cytotoxicity, and lipid peroxidation in primary cultures of rat hepatocytes. *Toxicol Appl Pharmacol* 144:377-384.
- Susa N, Ueno S, Furukawa Y, et al. 1997b. Protective effect of deferoxamine on chromium(VI)-induced DNA single-strand breaks, cytotoxicity, and lipid peroxidation in primary cultures of rat hepatocytes. *Arch Toxicol* 71:345-350.
- Susa N, Ueno S, Furukawa Y, et al. 1998. Protective effect of diethyldithiocarbamate pretreatment on chromium(VI)-induced cytotoxicity, and lipid peroxidation in primary cultures of rat hepatocytes. *J Vet Med Sci* 60(1):71-76.
- Suzuki Y. 1988. Reduction of hexavalent chromium by ascorbic acid in rat lung lavage fluid. *Arch Toxicol* 62:116-122.

9. REFERENCES

Suzuki Y. 1990. Synergism of ascorbic acid and glutathione in the reduction of hexavalent chromium in vitro. *Ind Health* 28:9-19.

+*Suzuki Y, Fukuda K. 1990. Reduction of hexavalent chromium by ascorbic acid and glutathione with special reference to the rat lung. *Arch Toxicol* 64:169-176.

*Suzuki Y, Serita F. 1985. Simultaneous determination of water-soluble trivalent and hexavalent chromium by anion exchange high-pressure liquid chromatography. *Ind Health* 23:207-220.

+*Suzuki Y, Homma K, Minami M, et al. 1984. Distribution of chromium in rats exposed to hexavalent chromium and trivalent chromium aerosols. *Ind Health* 22:261-267.

*Swaine DJ, Mitchell RL. 1960. Trace-element distribution in soil profiles. *J Soil Sci* 11(2):347-368.

*Tagliari KC, Cecchini R, Vargas VMF. 2004. Mutagenicity of chromium (VI) using the Salmonella microsuspension bioassay. *Rev Bras Toxicol* 17(2):45-50.

Taioli E, Zhitkovich A, Kinney P, et al. 1995. Increased DNA-protein crosslinks in lymphocytes of residents living in chromium-contaminated areas. *Biol Trace Elem Res* 50:175-180.

+*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* 41:683-689.

Takahashi A, Ikehara T, Hosokawa K, et al. 1995. Properties of Ca²⁺-dependent K⁺ channels of human gingival fibroblasts. *J Dent Res* 74(8):1507-1512.

+*Takahashi K, Okubo T. 1990. A prospective cohort study of chromium plating workers in Japan. *Arch Environ Health* 45(2):107-111.

Takahashi Y, Kondo K, Hirose T, et al. 2005. Microsatellite instability and protein expression of the DNA mismatch repair gene, hMLH1, of lung cancer in chromate-exposed workers. *Mol Carcinog* 42(3):150-158.

Tamino G, Peretta L, Levis AG. 1981. Effects of trivalent and hexavalent chromium on the physicochemical properties of mammalian cell nucleic acids and synthetic polynucleotides. *Chem Biol Interact* 37:309-319.

+*Tandon SK, Behari JR, Kachru DN. 1979. Distribution of chromium in poisoned rats. *Toxicology* 13:29-34.

+Tandon SK, Saxena DK, Gaur JS, et al. 1978. Comparative toxicity of trivalent and hexavalent chromium. *Environ Res* 15:90-99.

+*Taylor FH. 1966. The relationship of mortality and duration of employment as reflected by a cohort of chromate workers. *Am J Public Health* 56(2):218-229.

9. REFERENCES

Taylor MD, Roberts JR, Leonard SS, et al. 2003. Effects of welding fumes of differing composition and solubility on free radical production and acute lung injury and inflammation in rats. *Toxicol Sci* 75(1):181-191.

Tel H, Altas Y, Taner MS. 2004. Adsorption characteristics and separation of Cr(III) and Cr(VI) on hydrous titanium(IV) oxide. *J Hazard Mater* 112(3):225-231.

+*Teraoka H. 1981. Distribution of 24 elements in the internal organs of normal males and the metallic workers in Japan. *Arch Environ Health* 36(4):155-164.

*Tezuka M, Keiko M, Toshiyuki E, et al. 1991. Protective effect of chromium (III) on acute lethal toxicity of carbon tetrachloride in rats and mice. *J Inorg Biochem* 42(1):1-8.

*Tezuka M, Sadanobu S, Gomi K, et al. 1995. *In vitro* effect of chromium and other trace metals on mouse hepatotoxicity induced by carbon tetrachloride exposure. *Biol Pharm Bull* 18(2):256-261.

*Thomas K, Colborn T. 1992. Organochlorine endocrine disruptors in human tissue. In: Colborn T, Clement C, eds. *Chemically induced alterations in sexual and functional development: The wildlife/human connection*. Princeton, NJ: Princeton Scientific Publishing, 365-394.

Thomas VL, Gropper SS. 1996. Effect of chromium nicotinic acid supplementation on selected cardiovascular disease risk factors. *Biol Trace Elem Res* 55:297-305.

*Thompson RC, Hollis OL. 1958. Irradiation of the gastrointestinal tract of the rat by ingested ruthenium-106. *Am J Physiol* 194(2):308-312.

+*Thomson WE. 1903. Note on a case of vesication of the cornea by potassium bichromate. *Ophthalmoscope* 1:214-216.

Tisch M, Maier H. 1996. Plattenepithelkarzinom der zunge nach beruflicher exposition gegenüber chrom-VI-verbindungen. *Laryngol Rhino Otol* 75:455-458.

Tkeshelashvili LK, Shearman CW, Zakour RA, et al. 1980. Effects of arsenic, selenium, and chromium on the fidelity of DNA synthesis. *Cancer Res* 40:2455-2460.

*Tola S, Kilpio J, Virtamo M, et al. 1977. Urinary chromium as an indicator of the exposure of welders to chromium. *Scand J Work Environ Health* 3:192-202.

*Torgrimsen T. 1982. Analysis of chromium. In: Langård S, ed. *Biological and environmental aspects of chromium*. New York, NY: Elsevier Biomedical Press, 65-99.

+*Tossavainen A, Nurminen P, Mutanen P, et al. 1980. Application of mathematical modeling for assessing the biological half-times of chromium and nickel in field studies. *Br J Ind Med* 37:285-291.

Travacio M, Polo JM, Llesuy S. 2000. Chromium(VI) induces oxidative stress in the mouse brain. *Toxicology* 150:137-146.

Travacio M, Polo JM, Llesuy S. 2001. Chromium(VI) induces oxidative stress in the mouse brain (Corrected and republished from 2000). *Toxicology* 162:139-148.

9. REFERENCES

- *Trent LK, Thieding-Cancel D. 1995. Effects of chromium picolinate on body composition. *J Sports Med Phys Fitness* 35:273-280.
- *TRI06. 2008. 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/>. February 27, 2008.
- +*Triebig G, Zschesche W, Schaller KH, et al. 1987. Studies on the nephrotoxicity of heavy metals in iron and steel industries. In: Foa V, Emmett EA, Maroni M, Colombi A, eds. Occupational and environmental chemical hazards. Cellular and biochemical indices for monitoring toxicity. Chichester, UK: Ellis Horwood Limited, 334-338.
- Tripathi RM, Raghunath R, Kumar AV, et al. 1998. Intake of chromium by the adult population of Mumbai City. *Environ Monit Assess* 53:379-389.
- +*Trivedi B, Saxena DK, Murthy RC, et al. 1989. Embryotoxicity and fetotoxicity of orally administered hexavalent chromium in mice. *Reprod Toxicol* 3:275-278.
- *Trzeciak A, Kowalik J, Malecka-Panas E, et al. 2000. Genotoxicity of chromium in human gastric mucosa cells and peripheral blood lymphocytes evaluated by the single cell gel electrophoresis (comet assay). *Med Sci Monit* 6(1):24-29.
- Tsapakos MJ, Hampton TH, Jennette KW. 1981. The carcinogen chromate induces DNA cross-links in rat liver and kidney. *J Biol Chem* 256:3623-3626.
- *Tsapakos MJ, Hampton TH, Sinclair PR, et al. 1983a. The carcinogen chromate causes DNA damage and inhibits drug-mediated induction of porphyrin accumulation and glucuronidation in chick embryo hepatocytes. *Carcinogenesis* 4(8):959-966.
- *Tsapakos MJ, Hampton TH, Wetterhahn KE. 1983b. Chromium(VI)-induced DNA lesions and chromium distribution in rat kidney, liver, and lung. *Cancer Res* 43:5662-5667.
- Tsou TC, Yang JL. 1996. Formation of reactive oxygen species and DNA strand breakage during interaction of chromium(III) and hydrogen peroxide in vitro: Evidence for a chromium(III)-mediated Fenton-like reaction. *Chem Biol Interact* 102:133-153.
- *Tsou TC, Chen CL, Liu TY, et al. 1996. Induction of 8-hydroxydeoxyguanosine in DNA by chromium(III) plus hydrogen peroxide and its prevention by scavengers. *Carcinogenesis* 17(1):103-108.
- Tsuchiya K. 1965. The relation of occupation to cancer, especially cancer of the lung. *Cancer* 18:136-144.
- Tsuda H, Kato K. 1976. Potassium dichromate-induced chromosome aberrations and its control with sodium sulfite in hamster embryonic cells in vitro. *Gann* 67:469-470.
- *Tsuda H, Kato K. 1977. Chromosomal aberrations and morphological transformation in hamster embryonic cells treated with potassium dichromate in vitro. *Mutat Res* 46:87-94.

9. REFERENCES

- Tully DB, Collins BJ, Overstreet JD, et al. 2000. Effects of arsenic, cadmium, chromium, and lead on gene expression regulated by a battery of 13 different promoters in recombinant HepG2 cells. *Toxicol Appl Pharmacol* 168:79-90.
- Turel I, Leban I, Klintschar G, et al. 1997. Synthesis, crystal structure, and characterization of two metal-quinolone compounds. *J Inorg Biochem* 66(2):77-82.
- Turk K, Rietschel RL. 1993. Effect of processing cement to concrete on hexavalent chromium levels. *Contact Dermatitis* 28:209-211.
- Twardowska I. 1993. Pathways of chromium in the terrestrial and aquatic environment in the area of a long-lasting emission. *Sci Total Environ* 134(Suppl 1):173-184.
- *Uddin AN, Burns FJ, Rossman TG, et al. 2007. Dietary chromium and nickel enhance UV-carcinogenesis in skin of hairless mice. *Toxicol Appl Pharmacol* 221(3):329-338.
- *Ueno S, Kashimoto T, Susa N, et al. 2001. Detection of dichromate (VI)-induced DNA strand breaks and formation of paramagnetic chromium in multiple mouse organs. *Toxicol Appl Pharmacol* 170:56-62.
- *Ueno S, Sugiyama M, Nobuyuki S, et al. 1995a. Effect of dimethylthiourea on chromium(VI)-induced DNA single-strand breaks in Chinese hamster V-79 cells. *Mutat Res* 346:247-253.
- +Ueno S, Susa N, Furukawa Y, et al. 1988. The relationship between the development of toxicity and lipid peroxidation induced by chromium compounds in rats. *Kitasato Arch of Exp Med* 61:137-147.
- Ueno S, Susa N, Furukawa Y, et al. 1989. Cellular injury and lipid peroxidation induced by hexavalent chromium in isolated rat hepatocytes. *Jpn J Vet Sci* 51:137-145.
- *Ueno S, Susa N, Furukawa Y, et al. 1995b. Formation of paramagnetic chromium in liver of mice treated with dichromate(VI). *Toxicol Appl Pharmacol* 135:165-171.
- *Umeda M, Nishimura M. 1979. Inducibility of chromosomal aberrations by metal compounds in cultured mammalian cells. *Mutat Res* 67:221-229.
- Upreti RK, Shrivastava R, Chaturvedi UC. 2004. Gut microflora & toxic metals: Chromium as a model. *Indian J Med Res* 119(2):49-59.
- Upreti RK, Shrivastava R, Kannan A, et al. 2005. A comparative study on rat intestinal epithelial cells and resident gut bacteria: (I) Effect of hexavalent chromium. *Toxicol Mech Methods* 15(5):331-338.
- *Urasa IT, Nam SH. 1989. Direct determination of chromium(III) and chromium(VI) with ion chromatography using direct current plasma emission as element-selective detector. *J Chromatogr Sci* 27:30-37.
- *USDI. 1988a. Mineral yearbook: Chromium. U.S. Department of the Interior, Bureau of Mines, Pittsburgh, PA.
- USDI. 1988b. Mineral commodity summaries. Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, 36.

9. REFERENCES

- *USGS. 1984. Element concentrations in soils and other surficial materials of the conterminous United States. United States Geological Survey. USGS Professional Paper 1270. Washington, DC: U.S. Government Printing Office.
- *USGS. 1989. Concentrations of nine trace metals in ground water at the Idaho National Engineering Laboratory, Idaho. U.S. Geological Survey. Idaho Falls, Idaho: U.S. Geological Service, U.S. Department of Energy. DE88015177.
- USGS. 1998. Chromium. USGS minerals information: 1998. Mineral commodities summaries. United States Geological Survey. <http://minerals.usgs.gov/minerals/pubs/mcs/1998>.
- *USGS. 2008a. Chromium. In: Mineral commodity summaries 2008. U.S. Geological Survey, 48-49. <http://minerals.usgs.gov/minerals/pubs/mcs/2008/mcs2008.pdf>. May 22, 2008.
- *USGS. 2008b. 2006 Minerals yearbook. Chromium. U.S. Geological Survey. <http://minerals.usgs.gov/minerals/pubs/commodity/chromium/myb1-2006-chrom.pdf>. May 22, 2008.
- Uyama T, Monden Y, Tsuyuguchi M, et al. 1989. Lung cancer in chromate workers: High-risk group for multiple lung cancer. *J Surg Oncol* 41:213-218.
- *Vaglenov A, Nosko M, Georgieva R, et al. 1999. Genotoxicity and radioresistance in electroplating workers exposed to chromium. *Mutat Res* 446(1):23-34.
- Vallier HA, Rodgers PA, Stevenson DK. 1993. Inhibition of heme oxygenase after oral vs. intraperitoneal administration of chromium porphyrins. *Life Sci* 52:79-84.
- Van Faassen A, Borm PJA. 1991. Composition and health hazards of water-based construction paints: Results from a survey in the Netherlands. *Environ Health Perspect* 92:147-154.
- Van Heugten E, Spears JW. 1997. Immune response and growth of stressed weanling pigs fed diets supplemented with organic or inorganic forms of chromium. *J Anim Sci* 75:409-416.
- *Vasant C, Rajaram R, Ramasami T. 2003. Apoptosis of lymphocytes induced by chromium(VI/V) is through ROS-mediated activation of Src-family kinases and caspases-3. *Free Radic Biol Med* 35(9):1082-1100.
- 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.
- Vashishat RK, Vasudeva M. 1987. Genotoxic potential of chromium salts in *Saccharomyces cerevisiae*. *Ind J Microbiol* 27:35-36.
- *Veillon C. 1989. Analytical chemistry of chromium. *Sci Total Environ* 86:65-68.
- *Veillon C, Patterson KY, Bryden NA. 1982. Direct determination of chromium in human urine by electrothermal atomic absorption spectrometry. *Anal Chim Acta* 136:233-241.
- *Venier P, Montaldi A, Majone F, et al. 1982. Cytotoxic, mutagenic and clastogenic effects of industrial chromium compounds. *Carcinogenesis* 3(11):1331-1338.

9. REFERENCES

- *Venier P, Montini R, Zordan M, et al. 1989. Induction of SOS response in Escherichia coli strain PQ37 by 16 chemical compounds and human urine extracts. *Mutagenesis* 4(1):51-57.
- *Venitt S, Levy LS. 1974. Mutagenicity of chromates in bacteria and its relevance to chromate carcinogenesis. *Nature* 250:493-495.
- Verhage AH, Cheong WK, Jeejeebhoy KN. 1996. Neurological symptoms due to possible chromium deficiency in long-term parenteral nutrition that closely mimic metronidazole-induced syndromes. *J Parenter Enter Nutr* 20(2):123-127.
- +*Vernot EH, MacEwen JD, Haun CC, et al. 1977. Acute toxicity and skin corrosion data for some organic and inorganic compounds and aqueous solutions. *Toxicol Appl Pharmacol* 42:417-423.
- +*Verschoor MA, Bragt PC, Herber RFM, et al. 1988. Renal function of chrome-plating workers and welders. *Int Arch Occup Environ Health* 60:67-70.
- Versieck J. 1985. Trace elements in human body fluids and tissues. *CRC Crit Rev Clin Lab Sci* 22:97-184.
- Viccellio P, Bania T, Brent J, et al, eds. 1998. *Emergency toxicology*. 2nd ed. Philadelphia, PA: Lippincott-Raven, 448-449, 470, 1141.
- *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.
- Vijayram K, Geraldine P. 1996. Regulation of essential heavy metals (Cu, Cr, and Zn) by the freshwater prawn *Macrobrachium malcolmsonii* (Milne Edwards). *Bull Environ Contam Toxicol* 56:335-342.
- +*Visek WJ, Whitney IB, Kuhn USC, et al. 1953. Metabolism of Cr⁵¹ by animals as influenced by chemical state. *Proc Soc Exp Biol Med* 84:610-615.
- Vitale RJ, Mussoline GR, Rinehimer KA. 1997. Environmental monitoring of chromium in air, soil, and water. *Regul Toxicol Pharmacol* 26:S80-S85.
- Wacker WEC, Vallee BL. 1959. Nucleic acids and metals I. Chromium, manganese, nickel, iron and other metals in ribonucleic acid from diverse biological sources. *J Biol Chem* 234:3257-3262.
- *Wagley D, Schmiedel G, Mainka E, et al. 1989. Direct determination of some essential and toxic elements in milk and milk powder by graphite furnace atomic absorption spectrometry. *Atmos Spectrosc* 10(4):106-111.
- +*Wahba A, Cohen T. 1979. Chrome sensitivity in Israel. *Contact Dermatitis* 5:101-107.
- +Wahlberg JE. 1965. Percutaneous toxicity of metal compounds: A comparative investigation in guinea pigs. *Arch Environ Health* 11:201-204.
- *Wahlberg JE. 1970. Percutaneous absorption of trivalent and hexavalent chromium (⁵¹Cr) through excised human and guinea pig skin. *Dermatologica* 141:288-296.
- +*Wahlberg JE, Skog E. 1965. Percutaneous absorption of trivalent and hexavalent chromium. *Arch Dermatol* 92:315-318.

9. REFERENCES

- Wakeman TP, Wyczzechowska D, Xu B. 2005. Involvement of the p38 MAP kinase in Cr(VI)-induced growth arrest and apoptosis. *Mol Cell Biochem* 279:69-73.
- Walter Z, Mankiewicz J, Wozniak K, et al. 2000. Does potassium dichromate induce apoptosis in lymphocytes? *Int J Occup Environ Health* 13(3):205-213.
- *Wang J, Ashley K, Kennedy ER, et al. 1997a. Determination of hexavalent chromium in industrial samples using ultrasonic extraction and flow injection analysis. *Analyst* 122(11):1307-1312.
- Wang JF, Bashir M, Engelsberg BN, et al. 1997b. High mobility group proteins 1 and 2 recognize chromium-damaged DNA. *Carcinogenesis* 18(2):371-375.
- *Wang JY, Tsukayama DT, Wicklund BH, et al. 1996a. Inhibition of T and B cell proliferation by titanium, cobalt, and chromium: Role of IL-2 and IL-6. *J Biomed Mater Res* 32:655-661.
- Wang JY, Wicklund BH, Gustilo RB, et al. 1996b. Titanium, chromium and cobalt ions modulate the release of bone-associated cytokines by human monocytes/macrophages *in vitro*. *Biomaterials* 17:2233-2240.
- *Wang X, Xing M, Shen Y, et al. 2006. Oral administration of Cr(VI) induced oxidative stress, DNA damage and apoptotic cell death in mice. *Toxicology* 228(1):16-23.
- +Wang XW, Davies JWL, Sirvent RLZ, et al. 1985. Chromic acid burns and acute chromium poisoning. *Burns* 11:181-184.
- *Wani S, Weskamp C, Marple J, et al. 2006. Acute tubular necrosis associated with chromium picolinate-containing dietary supplement. *Ann Pharmacother* 40:563-566.
- *Warren G, Schultz P, Bancroft D, et al. 1981. Mutagenicity of a series of hexacoordinate chromium(III) compounds. *Mutat Res* 90:111-118.
- *Wasser WG, Feldman NS, D'Agati VD. 1997. Chronic renal failure after ingestion of over-the-counter chromium picolinate. *Ann Intern Med* 126(5):410.
- *Watanabe K, Sakamoto K, Sasaki T. 1998a. Comparisons on chemically-induced mutation among four bacterial strains, *Salmonella typhimurium* TA102 and TA2638, and *Escherichia coli* WP2/pKM101 and WP2 *uvrA*/pKM101: Collaborative study II. *Mutat Res* 412:17-31.
- Watanabe K, Sasaki T, Kawakami K. 1998b. Comparisons of chemically-induced mutation among four bacterial strains, *Salmonella typhimurium* TA102 and TA2638, and *Escherichia coli* WP2/pKM101 and WP2 *uvrA*/pKM101: Collaborative study III and evaluation of the usefulness of these strains. *Mutat Res* 416:169-181.
- Waters MD, Gardner DE, Arany C, et al. 1975. Metal toxicity for rabbit alveolar macrophages *in vitro*. *Environ Res* 9:32-47.
- Wei Y, Tepperman K, Huang M, et al. 2004. Chromium inhibits transcription from polycyclic aromatic hydrocarbon-inducible promoters by blocking the release of histone deacetylase and preventing the binding of p300 to chromatin. *J Biol Chem* 279(27):4110-4119.

9. REFERENCES

- *Weast RC, ed. 1985. CRC handbook of chromium and physics. 66th ed. Boca Raton, FL: CRC Press, Inc., B-70, B-88-89, B-106, B-127, B-142, B-147, B-159, D-215.
- +*Weber H. 1983. Long-term study of the distribution of soluble chromate-51 in the rat after a single intratracheal administration. *J Toxicol Environ Health* 11:749-764.
- Wedeen RP, Qian L. 1991. Chromium-induced kidney disease. *Environ Health Perspect* 92:71-74.
- +*Wedeen RP, Haque S, Udasin I, et al. 1996. Absence of tubular proteinuria following environmental exposure to chromium. *Arch Environ Health* 51(4):321-323.
- Wendt PH, Van Dolah RF, Bobo MY, et al. 1996. Wood preservative leachates from docks in an estuarine environment. *Arch Environ Contam Toxicol* 31:24-37.
- *Werfel U, Langen V, Eickhoff I, et al. 1998. Elevated DNA single-strand breakage frequencies in lymphocytes of welders exposed to chromium and nickel. *Carcinogenesis* 19(3):413-418.
- *West JR, Smith HW, Chasis H. 1948. Glomerular filtration rate, effective renal blood flow, and maximal tubular excretory capacity in infancy. *J Pediatrics* 32a:10-18.
- *Westbrook JH. 1979. Chromium and chromium alloys. In: Grayson M, ed. *Kirk-Othmer encyclopedia of chemical technology*, Vol. 6, 3rd ed. New York, NY: John Wiley and Sons, 54-82
- Wetterhahn KE, Hamilton JW. 1989. Molecular basis of hexavalent chromium carcinogenicity: Effect on gene expression. *Sci Total Environ* 86:113-129.
- White MA, Sabbioni E. 1998. Trace element reference values in tissues from inhabitants of the European Union. X. A study of 13 elements in blood and urine of a United Kingdom population. *Sci Total Environ* 216:253-270.
- *Whiting RF, Stich HF, Koropatnick DJ. 1979. DNA damage and DNA repair in cultured human cells exposed to chromate. *Chem Biol Interact* 26:267-280.
- *Whittaker P, San RHC, Clarke JJ, et al. 2005. Mutagenicity of chromium picolinate and its components in *Salmonella typhimurium* and L5178Y mouse lymphoma cells. *Food Chem Toxicol* 43(11):1619-1625.
- Whittemore AS. 1978. Quantitative theories of oncogenesis. *Adv Cancer Res* 27:55-87.
- *WHO. 1988. Chromium. *Environmental Health Criteria* 61. Geneva: United Nations Environment Programme. International Labour Organisation. World Health Organization. <http://www.inchem.org/documents/ehc/ehc/ehc61.htm>. April 23, 2008.
- *WHO. 2000. Air quality guidelines. 2nd ed. Geneva, Switzerland: World Health Organization. http://www.euro.who.int/document/aicq/6_4chromium.pdf. May 14, 2008.
- *WHO. 2003. Chromium in drinking water. Background document for development of WHO guidelines for drinking water quality. Geneva: World Health Organization.
- *WHO. 2004. Guidelines for drinking-water quality. Vol. 1. Recommendations. 3rd ed. Geneva, Switzerland: World Health Organization. http://www.who.int/water_sanitation_health/dwq/gdwq3/en/. March 08, 2006.

9. REFERENCES

- *Widdowson EM, Dickerson JWT. 1964. Chemical composition of the body. In: Comar CL, Felix F, eds. Mineral metabolism: An advanced treatise Volume II, The elements part A. New York, NY: Academic Press.
- *Wiegand HJ, Ottenwalder H, Bolt HM. 1984. The reduction of chromium(VI) to chromium(III) by glutathione: An intracellular redox pathway in the metabolism of the carcinogen chromate. *Toxicology* 33:341-348.
- *Wiegand HJ, Ottenwalder H, Bolt HM. 1985. Fast uptake kinetics *in vitro* of ⁵¹Cr (VI) by red blood cells of man and rat. *Arch Toxicol* 57(1):31-34.
- +*Wiegand HJ, Ottenwalder H, Bolt HM. 1987. Bioavailability and metabolism of hexavalent chromium compounds. *Toxicol Environ Chem* 14:263-275.
- *Wiegand HJ, Ottenwalder H, Bolt HM. 1988. Recent advances in biological monitoring of hexavalent chromium compounds. *Sci Total Environ* 71:309-315.
- *Wiersema JM, Wright L, Rogers B, et al. 1984. Human exposure to potentially toxic elements through ambient air in Texas. In: Proceedings of the 77th meeting of Air Pollution Control Association, Vol. Austin, TX, 2-15.
- Wilcox AJ, Savitz DA, Samet JM. 2008. A tale of two toxicants: Lessons from Minamata and Liaoning. (Comment on: *Epidemiology* 19(1):12-23). *Epidemiology* 19(1):1-2.
- *Wild D. 1978. Cytogenetic effects in the mouse of 17 chemical mutagens and carcinogens evaluated by the micronucleus test. *Mutat Res* 56:319-327.
- +Williams MW, Hoeschele JD, Turner JE, et al. 1982. Chemical softness and acute metal toxicity in mice and *Drosophila*. *Toxicol Appl Pharmacol* 63:461-469.
- *Winder C, Carmody M. 2002. The dermal toxicity of cement. (Comment in: *Toxicol Ind Health* 19:183). *Toxicol Ind Health* 18:321-331.
- Windholz, M, ed. 1983. The Merck index. 10th ed. Rahway, NJ: Merck and Co., Inc., 316-317.
- +*Winston JR, Walsh EN. 1951. Chromate dermatitis in railroad employees working with diesel locomotives. *J Am Med Assoc* 147:1133-1134.
- *Wise JP, Orenstein JM, Patierno SR. 1993. Inhibition of lead chromate clastogenesis by ascorbate: Relationship to particle dissolution and uptake. *Carcinogenesis* 14(3):429-434.
- Wise JP, Stearns DM, Wetterhaun KE, et al. 1994. Cell-enhanced dissolution of carcinogenic lead chromate particles: The role of individual dissolution products in clastogenesis. *Carcinogenesis* 15(10):2249-2254.
- *Wise JP, Wise SS, Little JE. 2002. The cytotoxicity and genotoxicity of particulate and soluble hexavalent chromium in human lung cells. *Mutat Res* 517:221-229.
- *Wise SS, Holmes AL, Ketterer ME, et al. 2004. Chromium is the proximate clastogenic species for lead chromate-induced clastogenicity in human bronchial cells. *Mutat Res* 560:79-89.

9. REFERENCES

- *Wise SS, Holmes AL, Ketterer M, et al. 2003. Chromium is the proximate genotoxic species in lead chromate-induced genotoxicity in human bronchial cells. *Toxicologist* 72(S-1):217.
- Wise SS, Holmes AL, Moreland JA, et al. 2005. Human lung cell growth is not stimulated by lead ions after lead chromate-induced genotoxicity. *Mol Cell Biochem* 279(1-2):75-84.
- *Wise SS, Holmes AL, Wise JP. 2006b. Particulate and soluble hexavalent chromium are cytotoxic and genotoxic to human lung epithelial cells. *Mutat Res* 610(1-2):2-7.
- *Wise SS, Holmes AL, Xie H, et al. 2006a. Chronic exposure to particulate chromate induces spindle assembly checkpoint bypass in human lung cells. *Chem Res Toxicol* 19:1492-1498.
- *Wise SS, Kraus S, Shaffiey F, et al. 2008. Hexavalent chromium is cytotoxic and genotoxic to the North Atlantic right whale (*Eubalaena glacialis*) lung and testes fibroblasts. *Mutat Res* 650:30-38.
- Wise SS, Schuler JH, Katsifis SP, et al. 2003. Barium chromate is cytotoxic and genotoxic to human lung cells. *Environ Mol Mutagen* 42(4):274-278.
- Witmer C, Cooper K, Kelly J. 1982. Effects of plating efficiency and lowered concentration of salts on mutagenicity assays with Ames; Salmonella strains. *Adv Exp Med Biol* 136B:1271-1284.
- +*Witmer C, Faria E, Park H-S, et al. 1994. *In vivo* effects of chromium. *Environ Health Perspect* 102(3):169-176.
- +*Witmer CM, Harris R, Shupack SI. 1991. Oral bioavailability of chromium from a specific site. *Environ Health Persp* 92:105-110.
- +*Witmer CM, Park HS, Shupack SI. 1989. Mutagenicity and disposition of chromium. *Sci Total Environ* 86:131-148.
- Wolf T, Bolt HM, Ottenwalder H. 1989. Nick translation studies on DNA strand breaks in pBR322 plasmid induced by different chromium species. *Toxicol Lett* 47:295-301.
- Wolf T, Kasemann R, Ottenwalder H. 1989. Differing effects of chromium(III) and chromium(VI) on nucleotides and DNA. *Arch Toxicol Suppl* 13:48-51.
- Wolf T, Wiegand HJ, Ottenwalder H. 1989. Different molecular effects on nucleotides by interaction with Cr(III) and Cr(VI): A ³¹P-NMR study in vitro. *Toxicol Environ Chem* 23:108.
- Wong PK. 1988. Mutagenicity of heavy metals. *Bull Environ Contam Toxicol* 40:597-603.
- *Wong SS, Chan MT, Gan SL, et al. 1998. Occupational chromate allergy in Singapore: A study of 87 patients and a review from 1983 to 1995. *Am J Contact Dermatitis* 9(1):1-5.
- +Woolliscroft J, Barbosa J. 1977. Analysis of chromium induced carbohydrate intolerance in the rat. *J Nutr* 107(9):1702-1706.
- *Wrońska-Nofer T, Wisniewska-Knypl J, Wszyńska K. 1999. Prooxidative and genotoxic effect of transition metals (cadmium, nickel, chromium, and vanadium) in mice. *Trace Elem Electrolytes* 15(2):87-92.

9. REFERENCES

- Wrobel K, Garay-Sevilla ME, Malacara JM, et al. 1999. Effect of chromium on glucose tolerance, serum cholesterol and triglyceride levels in occupational exposure to trivalent species in type 2 diabetic patients and in control subjects. *Trace Elem Electrolytes* 16(4):199-205.
- Wu F, Tsai F, Kuo H, et al. 2000. Cytogenic study of workers exposed to chromium compounds. *Mutat Res* 464:289-296.
- *Wu F, Wu W, Kuo H, et al. 2001. Effect of genotoxic exposure to chromium among electroplating workers in Taiwan. *Sci Total Environ* 279:21-28.
- Xie H, Holmes AL, Wise SS, et al. 2004. Lead chromate-induced chromosome damage requires extracellular dissolution to liberate chromium ions but does not require particle internalization or intracellular dissolution. *Chem Res Toxicol* 17(10):1362-1367.
- Xie H, Holmes AL, Wise SS, et al. 2007. Neoplastic transformation of human bronchial cells by lead chromate particles. *Am J Respir Cell Mol Biol* 37(5):544-552.
- Xie H, Wise SS, Wise JP. 2008. Deficient repair of particulate hexavalent chromium-induced DNA double strand breaks leads to neoplastic transformation. *Mutat Res* 649:230-238.
- *Xu J, Bubleby GJ, Detrick B, et al. 1996. Chromium(VI) treatment of normal human lung cells results in guanine-specific DNA polymerase arrest, DNA-DNA cross-links and S-phase blockade of cell cycle. *Carcinogenesis* 17(7):1511-1517.
- Yadav J, Yadav A, Sharma T. 2001. Chromosome damage in nickel-chrome electroplaters. *J Hum Ecol* 12(3):185-189.
- +*Yamaguchi S, Sano K, Shimojo N. 1983. On the biological half-time of hexavalent chromium in rats. *Ind Health* 21:25-34.
- Yamamoto A, Honma R, Sumita M. 1998. Cytotoxicity evaluation of 43 metal salts using murine fibroblasts and osteoblastic cells. *J Biomed Mater Res* 39:331-340.
- *Yamamoto A, Kohyama Y, Hanawa T. 2002. Mutagenicity evaluation of forty-one metal salts by the umu test. *J Biomed Mater Res* 59:176-183.
- *Yang JL, Hsieh YC, Wu CW, et al. 1992. Mutational specificity of chromium(VI) compounds in the hprt locus of Chinese hamster ovary-K1 cells. *Carcinogenesis* 13(11):2053-2057.
- Yargicoglu P, Agar A, Oguz Y, et al. 1997. The effect of developmental exposure to cadmium (Cd) on visual evoked potentials (EEPs) and lipid peroxidation. *Neurotoxicol Teratol* 19(3):213-219.
- Yavorsky M, Almaden P, King CG. 1934. The vitamin C content of human tissues. *J Biol Chem* 106(2):525-529.
- Ye J, Shi X. 2001. Gene expression profile in response to chromium-induced cell stress in A549 cells. *Mol Cell Biochem* 222:189-197.
- *Ye J, Zhang X, Young HA, et al. 1995. Chromium(VI)-induced nuclear factor- κ B activation in intact cells via free radical reactions. *Carcinogenesis* 16(10):2401-2405.

9. REFERENCES

- *Yeadley RB, Lazorchak JM, Paulsen SG. 1998. Elemental fish tissue contamination in Northeastern U.S. lakes: Evaluation of an approach to regional assessment. *Environ Toxicol Chem* 17(9):1875-1884.
- +*Yousef MI, El-Demerdash FM, Kamil KI, et al. 2006. Ameliorating effect of folic acid on chromium(VI)-induced changes in reproductive performance and seminal plasma biochemistry in male rabbits. *Reprod Toxicol* 21(3):322-328.
- Yu IJ, Song KS, Chang HK, et al. 2001. Lung fibrosis in Sprague-Dawley rats, induced by exposure to manual metal arc-stainless steel welding fumes. *Toxicol Sci* 63:99-106.
- Yu W, Sipowicz MA, Diwan BA, et al. 1998. Preconception exposure of male mice to urethane or chromium: Increased tumors in multiple organs of offspring. *Proc Am Assoc Cancer Res* 39:21.
- Zabulyte D, Uleckiene S, Kalibatas J, et al. 2006. Investigation of combined effect of chromium (VI) and nitrate in experiments on rats. *Trace Elem Electrolytes* 23(4):287-291.
- Zachariae COC, Agner T, Menne T. 1996. Chromium allergy in consecutive patients in a country where ferrous sulfate has been added to cement since 1981. *Contact Dermatitis* 35:83-85.
- Zagrodzki P, Debecki L, Radkowski A, et al. 2007. Association of occupational exposure to chromium with tumour markers and selected biochemical parameters. *Pol J Environ Stud* 16(2):275-281.
- +*Zahid ZR, Al-Hakkak ZS, Kadhim AHH, et al. 1990. Comparative effects of trivalent and hexavalent chromium on spermatogenesis of the mouse. *Toxicol Environ Chem* 25:131-136.
- Zak LJ, Cosgrove JR, Aherne FX, et al. 1997. Pattern of feed intake and associated metabolic and endocrine change differentially affect postweaning fertility in primiparous lactating sows. *J Anim Sci* 75:208-216.
- *Zatka VJ. 1985. Speciation of hexavalent chromium in welding fumes interference by air oxidation of chromium. *Am Ind Hyg Assoc J* 46(6):327-331.
- Zha L, Xu Z, Wang M, et al. 2007. Effects of chromium nanoparticle dosage on growth, body consumption, serum hormones and tissue chromium in Sprague-Dawley rats. *J Zhejiang Univ Sci B* 8(5):323-330.
- *Zhang J, Li S. 1997. Cancer mortality in a Chinese population exposed to hexavalent chromium in water. (Comment in: *J Occup Environ Med* 48(7):749). *J Occ Env Med* 39(4):315-319.
- +*Zhang J, Li X. 1987. Chromium pollution of soil and water in Jinzhou. *J Chinese Prev Med* 21:262-264.
- Zhang Z, Leonard SS, Wang S, et al. 2001. Cr(VI) induces cell growth arrest through hydrogen peroxide-mediated reactions. *Mol Cell Biochem* 222:77-83.
- *Zhitkovich A. 2005. Importance of chromium-DNA adducts in mutagenicity and toxicity of chromium(VI). *Chem Res Toxicol* 18:3-11.

9. REFERENCES

- Zhitkovich A, Shrager S, Messer J. 2000. Reductive metabolism of Cr(VI) by cystein leads to the formation of binary and ternary Cr-DNA adducts in the absense of oxidative DNA damage. *Chem Res Toxicol* 13:1114-1124.
- Zhitkovich A, Voitkun V, Costa M. 1995. Gluathione and free amino acids from stable complexes with DNA following exposure of intact mammalian cells to chromate. *Carcinogenesis* 16(4):907-913.
- *Zhitkovich A, Voitkun V, Costa M. 1996. Formation of the amino acid-DNA complexes by hexavalent and trivalent chromium *in vitro*: Importance of trivalent chromium and the phosphate group. *Biochemistry* 35:7275-7282.
- *Ziegler EE, Edwards BB, Jensen RL, et al. 1978. Absorption and retention of lead by infants. *Pediatr Res* 12:29-34.
- *Zimmering S, Mason JM, Valencia R, et al. 1985. Chemical mutagenesis testing in *Drosophila*. II. Results of 20 coded compounds tested for the National Toxicology Program. *Environ Mutagen* 7:87-100.