

9. REFERENCES

- Abbott PJ. 1987. Methylcyclopentadienyl manganese tricarbonyl (MMT) in petrol: The toxicological issues. *Sci Total Environ* 67:247-255.
- +*Abdel-Hamid MM, El-Desoky SA, Magdi SM. 1990. Estimation of manganese in blood between exposed workers to different concentrations at industrial units. *Egypt J Pharm Sci* 31:143-150.
- +*Abrams E, Lassiter JW, Miller WJ, et al. 1976a. Effect of dietary manganese as a factor affecting ⁵⁴Mn absorption in rats. *Nutr Rep Int* 14:561-565.
- Abrams E, Lassiter JW, Miller WJ, et al. 1976b. Absorption as a factor in manganese homeostasis. *J Anim Sci* 42:630-636.
- ACGIH. 1998. TLV-Threshold limit values and biological exposure indices for 1996-1997. Cincinnati, OH: American Conference of Governmental Industrial Hygienists.
- *ACGIH. 2007. Manganese. Threshold limit values for chemical substances and physical agents and biological exposure indices. Cincinnati, OH: American Conference of Governmental Industrial Hygienists, 37.
- Adams RM and Manchester RD. 1982. Allergic contact dermatitis to maneb in a housewife. *Contact Dermatitis* 8:271.
- *Adinolfi M. 1985. The development of the human blood-CSF-brain barrier. *Dev Med Child Neurol* 27(4):532-537.
- Adkins B, Luginbuhl GH, Gardner DE. 1980a. Biochemical changes in pulmonary cells following manganese oxide inhalation. *J Toxicol Environ Health* 6:445-454.
- +*Adkins B, Luginbuhl GH, Gardner DE. 1980b. Acute exposure of laboratory mice to manganese oxide. *Am Ind Hyg Assoc J* 41:494-500.
- +*Adkins B, Luginbuhl GH, Miller FJ, et al. 1980c. Increased pulmonary susceptibility to streptococcal infection following inhalation of manganese oxide. *Environ Res* 23:110-120.
- *Adlercreutz H. 1995. Phytoestrogens: Epidemiology and a possible role in cancer protection. *Environ Health Perspect Suppl* 103(7):103-112.
- Afsana K, Shiga K, Ishizuka S, et al. 2004. Reducing effect of ingesting tannic acid on the absorption of iron, but not zinc, copper and manganese by rats. *Biosci Biotechnol Biochem* 68(3):584-592.
- Afsar H, Demirata B. 1987. Simple method for distinguishing maneb, zineb, mancozeb, and selected mixtures. *J Assoc Off Anal Chem* 70:923-924.

*Cited in text

+Cited in supplemental document

9. REFERENCES

- *Agency for Toxic Substances and Disease Registry. 1989. Decision guide for identifying substance-specific data needs related to toxicological profiles; Notice. Agency for Toxic Substances and Disease Registry, Division of Toxicology. *Fed Regist* 54(174):37618-37634.
- *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.
- *Agency for Toxic Substances and Disease Registry. 1997. Public health assessment. Tobyhanna army depot Coolbaugh township, Monroe County, Pennsylvania. Agency for Toxic Substances and Disease Registry. http://www.atsdr.cdc.gov/HAC/PHA/toby/tob_toc.html. August 07, 2008.
- *Agency for Toxic Substances and Disease Registry. 2003. Public health assessment. Fish and shellfish evaluation Isla de Vieques bombing range. Vieques, Puerto Rico. Agency for Toxic Substances and Disease Registry. <http://www.atsdr.cdc.gov/hac/PHA/viequesfish/viequespr-toc.html>. August 07, 2008.
- Agusa T, Kunito T, Fujihara J, et al. 2006. Contamination by arsenic and other trace elements in tube-well water and its risk assessment to humans in Hanoi, Vietnam. *Environ Pollut* 139:95-106.
- Ahmad N, Guo L, Mandarakas P, et al. 1996. Headspace gas-liquid chromatographic determination of dithiocarbamate residues in fruits and vegetables with confirmation by conversion to ethylenethiourea. *J AOAC International* 79:1417-1422.
- Ahn C, Mitsch WJ. 2001. Chemical analysis of soil and leachate from experimental wetland mesocosms lined with coal combustion products. *J Environ Qual* 30:1457-1463.
- Aihara K, Nishi Y, Hatano S, et al. 1985. Zinc, copper, manganese, and selenium metabolism in patients with human growth hormone deficiency or acromegaly. *J Pediatr Gastroenterol Nutr* 4:610-618.
- +*Akbar-Khanzadeh F. 1993. Short-term respiratory function changes in relation to workshift welding fume exposures. *Int Arch Occup Environ Health* 64:393-397.
- *Alarcón OM, Reinosa-Fuller JA, Silva T, et al. 1996. Manganese levels in serum of healthy Venezuelan infants living in Mérida. *J Trace Elem Med Biol* 10:210-213.
- +*Alessio L, Apostoli P, Ferioli A, et al. 1989. Interference of manganese on neuroendocrinial system in exposed workers. Preliminary report. *Biol Trace Elem Res* 21:249-253.
- +*Ali MM, Murthy RC, Mandal SK, et al. 1985. Effect of low protein diet on manganese neurotoxicity: III. Brain neurotransmitter levels. *Neurobehav Toxicol Teratol* 7:427-431.
- +*Ali MM, Murthy RC, Saxena DK, et al. 1983a. Effect of low protein diet on manganese neurotoxicity: I. Developmental and biochemical changes. *Neurobehav Toxicol Teratol* 5:377-383.
- *Ali MM, Murthy RC, Saxena DK, et al. 1983b. Effect of low protein diet on manganese neurotoxicity: II. Brain GABA and seizure susceptibility. *Neurobehav Toxicol Teratol* 5:385-389.
- *Altman PL, Dittmer DS. 1974. Biological handbooks: Biology data book. Vol. III. 2nd ed. Bethesda, MD: Federation of American Societies for Experimental Biology, 1987-2008, 2041.

9. REFERENCES

Amdur MO, Norris LC, Heuser GF. 1944. The need for manganese in bone development by the rat. *Proc Soc Exp Biol Med* 59:254-255.

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

*Andersen ME, Clewell HJ, Gargas ML, et al. 1987. Physiologically based pharmacokinetics and the risk assessment process for methylene chloride. *Toxicol Appl Pharmacol* 87(2):185-205.

*Andersen ME, Gearhart JM, Clewell HJ. 1999. Pharmacokinetic data needs to support risk assessments for inhaled and ingested manganese. *Neurotoxicology* 20:161-171.

+*Anderson JG, Cooney PT, Erikson KM. 2007a. Brain manganese accumulation is inversely related to γ -amino butyric acid uptake in male and female rats. *Toxicol Sci* 95(1):188-195.

Anderson JG, Cooney PT, Erikson KM. 2007b. Inhibition of DAT function attenuates manganese accumulation in the globus pallidus. *Environ Toxicol Pharmacol* 23:179-184.

Angerer J, Schaller KH. 1985. Digestion procedures for the determination of metals in biological samples. In: *Analysis of hazardous substances in biological materials*. Vol. 2. Weinheim, FRG: VCH, 1-30.

Anke M, Groppel B. 1987. Toxic actions of essential trace elements (molybdenum, copper, zinc, iron and manganese). *Trace Element Anal Chem Med Biol* 4:201-236.

Antonini JM, Stone S, Roberts JR, et al. 2007. Effect of short-term stainless steel welding fume inhalation exposure on lung inflammation, injury, and defense responses in rats. *Toxicol Appl Pharmacol* 223:234-245.

Antunes MB, Bowler R, Doty RL. 2007. San Francisco/Oakland Bay bridge welder study. Olfactory function. (Erratum in: *Neurology* 70:87). *Neurology* 69:1278-1284.

Antunes MB, Bowler R, Doty RL. 2008. Correction: San Francisco/Oakland Bay bridge welder study: Olfactory function. (Errataum on: *Neurology* 69:1278-1287). *Neurology* 70:87.

APHA. 1985a. Determination of micro quantities of aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, and tin by electrothermal atomic absorption spectrometry. In: *Standard methods for the examination of water and wastewater*. 16th ed. American Public Health Association, Washington, DC.

APHA. 1985b. Manganese (total). In: *Standard methods for the examination of water and wastewater*. 16th ed. American Public Health Association, Washington, DC.

APHA. 1985c. Metals by atomic absorption spectrometry. In: *Standard methods for the examination of water and wastewater*. 16th ed. American Public Health Association, Washington, DC.

APHA. 1985d. Metals by emission spectroscopy using an inductively coupled plasma source (tentative). In: *Standard methods for the examination of water and wastewater*. 16th ed. American Public Health Association, Washington, DC.

9. REFERENCES

APHA. 1985e. Determination of antimony, bismuth, cadmium, calcium, cesium chromium, cobalt, copper, gold, iridium, iron, lead, lithium, magnesium, manganese, nickel, palladium, potassium, rhodium, ruthenium, silver, sodium, strontium, thallium, tin, and zinc by direct aspiratin into an air-acetylene flame-method 303A. In: Standard methods for the examination of water and wastewater. 16th ed. Washington, DC: American Public Health Association, 157-160.

APHA. 1985f. Determination of low concentrations of cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel, silver, and zinc by chelation with ammonium pyrrolidine dithiocarbamate (APDC) and extraction into methyl isobutyl ketone (MIBK)-method 303B. In: Standard methods for the examination of water and wastewater. 16th ed. Washington, DC: American Public Health Association, 160-162.

*APHA. 1998a. Method 3111. Metals by flame atomic absorption spectrometry. In: Clesceri LS, Greenberg AE, Eaton AD, et al., eds. Standard Methods for the Examination of Water and Wastewater. 20th ed. Washington, DC: American Public Health Association. American Water Works Association. Water Environmental Federation, 3-13 to 3-18.

*APHA. 1998b. Method 3113. Metals by electrothermal atomic absorption spectrometry. In: Clesceri LS, Greenberg AE, Eaton AD, et al., eds. Standard methods for the examination of water and wastewater. 20th ed. Washington, DC: American Public Health Association. American Water Works Association. Water Environmental Federation, 3-24 to 3-31.

*APHA. 1998d. Method 3120 A. Introduction. Method 3120 B. Inductively coupled plasma (ICP) method. In: Clesceri LS, Greenberg AE, Eaton AD, eds. Standard methods for the examination of water and wastewater. 20th ed. Washington, DC: American Public Health Association. American Water Works Association. Water Environmental Federation, 3-37 to 3-43.

*APHA. 1998c. Method 3125. Metals by inductively coupled plasma/mass spectrometry. In: Clesceri LS, Greenberg AE, Eaton AD, et al., eds. Standard Methods for the Examination of Water and Wastewater. 20th ed. Washington, DC: American Public Health Association. American Water Works Association. Water Environmental Federation, 3-44 to 3-52.

Aposhian HV, Ingersoll RT, Montgomery EB. 1999. Transport and control of manganese ions in the central nervous system. Environ Res Section A 80:96-98.

Apostoli P, Lucchini R, Alessio L. 2000. Are current biomarkers suitable for the assessment of manganese exposure in individual workers? Am J Ind Med 37:283-290.

*Archibald FS, Tyree C. 1987. Manganese poisoning and the attack of trivalent manganese upon catecholamines. Arch Biochem Biophys 256:638-650.

Arias E, Zavanella T. 1979. Teratogenic effects of manganese ethylenedithiocarbamate (maneb) on forelimb regeneration in the adult newt, Triturus cristatus carnifex. Bull Environ Contam Toxicol 22:297-304.

*Arnaud J, Favier A. 1995. Copper, iron, manganese and zinc contents in human colostrum and transitory milk of French women. Sci Total Environ 159:9-15.

Arnich N, Cunat L, Lanher M, et al. 2004. Comparative in situ study of the intestinal absorption of aluminum, manganese, nickel, and lead in rats. Biol Trace Elem Res 99:157-171.

9. REFERENCES

- *Arnold ML, McNeill FE, Chettle DR. 1999. The feasibility of measuring manganese concentrations in human liver using neutron activation analysis. *Neurotoxicology* 20:407-412.
- Aschner M. 1998. Blood-brain barrier: Physiological and functional considerations. In: Slikker W, Chang LW, eds. *Handbook of developmental neurotoxicology*. San Diego: Academic Press, 339-351.
- Aschner M. 1999. Manganese homeostasis in the CNS. *Environ Res Section A* 80:105-109.
- Aschner M. 2000. Manganese: Brain transport and emerging research needs. *Environ Health Perspect Suppl* 108:429-432.
- Aschner M. 2006a. Manganese as a potential confounder of serum prolactin. *Environ Health Perspect* 114(8):A458.
- Aschner M. 2006b. The transport of manganese across the blood-brain barrier. *Neurotoxicology* 27:311-314.
- *Aschner JL, Aschner M. 2005. Nutritional aspects of manganese homeostasis. *Mol Aspects Med* 26:353-362.
- *Aschner M, Aschner JL. 1990. Manganese transport across the blood-brain barrier: relationship to iron homeostasis. *Brain Res Bull* 24:857-860.
- *Aschner M, Aschner JL. 1991. Manganese neurotoxicity: Cellular effects and blood-brain barrier transport. *Neurosci Biobehav Rev* 15:333-340.
- *Aschner M, Dorman DC. 2006. Manganese: Pharmacokinetics and molecular mechanisms of brain uptake. *Toxicol Rev* 25(3):147-154.
- Aschner M, Connor JR, Dorman DC, et al. 2002a. Manganese in health and disease. From transport to neurotoxicity. In: Massaro EJ, ed. *Handbook of neurotoxicology: Volume 1*. Totowa, NJ: Humana Press, 195-209.
- *Aschner M, Erikson KM, Dorman DC. 2005. Manganese dosimetry: Species differences and implications for neurotoxicity. *Crit Rev Toxicol* 35(1):1-32.
- *Aschner M, Guilarte TR, Schneider JS, et al. 2007. Manganese: Recent advances in understanding its transport and neurotoxicity. *Toxicol Appl Pharmacol* 221:131-147.
- Aschner M, Shanker G, Erikson K, et al. 2002b. The uptake of manganese in brain endothelial cultures. *Neurotoxicology* 23:165-168.
- Aschner M, Vrana KE, Zheng W. 1999. Manganese uptake and distribution in the central nervous system (CNS). *Neurotoxicology* 20:173-180.
- Asplund A, Grant D, Karlsson JOG. 1994. Mangafodipir (MnDPDP)- and MnCl₂-induced endothelium-dependent relaxation in bovine mesenteric arteries. *J Pharmacol Exp Ther* 271(2):609-614.
- Asubiojo OI, Iskander FY. 1988. A trace element study of commercial infant milk and cereal formulas. *J Radioanal Nucl Chem* 125:265-270.

9. REFERENCES

- *Aue WA, Millier B, Sun XY. 1990. Determination of (methylcyclopentadienyl)manganese tricarbonyl in gasolines by gas chromatography with flame photometric detection. *Anal Chem* 62:2453-2457.
- +Ayotte P, Plaa GL. 1985. Hepatic subcellular distribution of manganese in manganese and manganese-bilirubin induced cholestasis. *Biochem Pharmacol* 34:3857-3865.
- Ayyamperumal T, Jonathan MP, Srinivasulu S, et al. 2006. Assessment of acid leachable trace metals in sediment cores from River Uppanar, Cuddalore, southeast coast of India. *Environ Pollut* 143:34-45.
- Baek S, Cho J, Kim E, et al. 2004. cDNA array analysis of gene expression profiles in brain of mice exposed to manganese. *Ind Health* 2004(42):315-320.
- *Baes CF, Sharp RD. 1983. A proposal for estimation of soil leaching and leaching constants for use in assessment models. *J Environ Qual* 12:17-28.
- +Bairati C, Goi G, Bollini D, et al. 1997. Effects of lead and manganese on the release of lysosomal enzymes in vitro and in vivo. *Clin Chim Acta* 261(1):91-101.
- +Baker DH, Halpin KM. 1991. Manganese and iron interrelationship in the chick. *Poultry Sci* 70:146-152.
- +*Baldwin M, Mergler D, Larribe F, et al. 1999. Bioindicator and exposure data for a population based study of manganese. *Neurotoxicology* 20:343-354.
- +*Ballatori N, Miles E, Clarkson TW. 1987. Homeostatic control of manganese excretion in the neonatal rat. *Am J Physiol* 252:R842-R847.
- Baly DL, Lee I, Doshi R. 1988. Mechanism of decreased insulinogenesis in manganese-deficient rats. Decreased insulin mRNA levels. *FEBS Lett* 239:55-58.
- +*Banta RG, Markesberry WR. 1977. Elevated manganese levels associated with dementia and extrapyramidal signs. *Neurology* 27:213-216.
- *Barbeau A. 1984. Manganese and extrapyramidal disorders (a critical review and tribute to Dr. George C. Cotzias). *Neurotoxicology* 5:13-35.
- *Barceloux DG. 1999. Manganese. *Clin Toxicol* 37(2):293-307.
- Bardarov V, Zaikov C, Mitewa M. 1989. Application of high-performance liquid chromatography with spectrophotometric and electrochemical detection to the analysis of alkylenebis(dithiocarbamates) and their metabolites. *J Chromatogr* 479:97-105.
- Barhoumi R, Faske J, Liu X, et al. 2004. Manganese potentiates lipopolysaccharide-induced expression of NOS2 in C6 glioma cells through mitochondrial-dependent activation of nuclear factor kappaB. *Brain Res Mol Brain Res* 122:167-179.
- *Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk assessments. *Regul Toxicol Pharmacol* 8(4):471-486.
- *Baruthio F, Guillard O, Arnaud J, et al. 1988. Determination of manganese in biological materials by electrothermal atomic absorption spectrometry: A review. *Clin Chem* 34:227-234.

9. REFERENCES

*Baselt RC. 1988. Manganese. In: Biological monitoring methods for industrial chemicals. Littleton, MA: PSG Publishing Company, Inc., 194-197.

Bason CW, Colborn T. 1992. US application and distribution of pesticides and industrial chemicals capable of disrupting endocrine and immune systems. In: Colborn T, Clement C, eds. Advances in modern environmental toxicology. Vol 21. Princeton, NJ: Princeton Scientific Publishing Co., 335-345.

Bason CW, Colborn T. 1998. U.S. application and distribution of pesticides and industrial chemicals capable of disrupting endocrine and immune systems. *J Clean Technol Environ Toxicol Occup Med* 7:147-156.

Bast-Pettersen R, Ellingsen DG. 2005. The Klove-Matthews static steadiness test compared with the dpd tremor. *Neurotoxicology* 26:331-342.

*Bast-Pettersen R, Ellingsen DG, Hetland SM, et al. 2004. Neuropsychological function in manganese alloy plant workers. *Int Arch Occup Environ Health* 77:277-287.

+Baxter DJ, Smith WO, Klein GC. 1965. Some effects of acute manganese excess in rats. *Proc Soc Exp Biol Med* 119:966-970.

Beach ED, Fernandez-Cornejo J, Huang WY. 1995. The potential risks of groundwater and surface water contamination by agricultural chemicals used in vegetable production. *J Environ Sci Health. A30(6)*:1295-1325.

Beck SL. 1990. Prenatal and postnatal assessment of maneb-exposed CD-1 mice. *Reprod Toxicol* 4:283-290.

Beck JN, Sneddon J. 2000. Metal concentrations in soils and sediments in Southwest Louisiana. *Anal Lett* 33(10):1913-1959.

*Beklemishev MK, Stoyan TA, Dolmanova IF. 1997. Sorption-catalytic determination of manganese directly on a paper-based chelating sorbent. *Analyst* 122:1161-1165.

*Bell JG, Keen CL, Lönnerdal B. 1989. Higher retention of manganese in suckling than in adult rats is not due to maturational differences in manganese uptake by rat small intestine. *J Toxicol Environ Health* 26:387-398.

*Berger GS, ed. 1994. Epidemiology of endometriosis. In: Endometriosis: Advanced management and surgical techniques. New York, NY: Springer-Verlag, 3-7.

+*Bergstrom R. 1977. Acute pulmonary toxicity of manganese dioxide. *Scand J Work Environ Health* 3(Suppl 1):1-40.

Berlin M, Lee IP, Russell LD. 1983. Effects of metals on male reproduction. In: Clarkson TW, Nordberg GF, Sager PR, eds. Reproductive and developmental toxicity of metals. New York, NY: Plenum Press, 29-40.

*Bernard A, Hermans C. 1997. Biomonitoring of early effects on the kidney or the lung. *Sci Total Environ* 199:205-211.

9. REFERENCES

- +*Bernardino ME, Young SW, Lee JKT, et al. 1992. Hepatic MR imaging with MnDPDP: Safety, image quality, and sensitivity. *Radiology* 183:53-58.
- +*Bernheimer H, Birkmayer W, Hornykiewicz O, et al. 1973. Brain dopamine and the syndromes of Parkinson and Huntington: Clinical, morphological and neurochemical correlations. *J Neurol Sci* 20: 415-455.
- Bertinchamps AJ, Cotzias GC. 1958. Biliary excretion of manganese. *Fed Proc* 17:428.
- +*Bertinchamps AJ, Miller ST, Cotzias GC. 1965. Interdependence of routes excreting manganese. *Am J Physiol* 211:217-224.
- +*Beuter A, Edwards R, de Geoffroy A, et al. 1999. Quantification of neuromotor function for detection of the effects of manganese. *Neurotoxicology* 20:355-366.
- Beuter A, Lambert G, MacGibbon B. 2004. Quantifying postural tremor in workers exposed to low levels of manganese. *J Neurosci Methods* 139:247-255.
- +Bhargava HN. 1987. Effect of repeated administration of manganese on the striatal cholinergic and dopaminergic receptors in the rat. *Toxicol Lett* 37:135-141.
- Bhuie AK, Roy DN. 2001. Deposition of Mn from automotive combustion of methylcyclopentadienyl manganese tricarbonyl beside the major highways in the greater Toronto area, Canada. *J Air Waste Manage Assoc* 51:1288-1301.
- *Bhuie AK, Ogunseitan OA, White RR, et al. 2005. Modeling the environmental fate of manganese from methylcyclopentadienyl manganese tricarbonyl in urban landscapes. *Sci Total Environ* 339:167-178.
- Bianchi F, Maffini M, Mangia A, et al. 2007. Experimental design optimization for the ICP-AES determinatino of Li, Na, K, Al, Fe, Mn and Zn in human serum. *J Pharm Biomed Anal* 43:659-665.
- +*Bird ED, Anton AH, Bullock B. 1984. The effect of manganese inhalation on basal ganglia dopamine concentrations in rhesus monkey. *Neurotoxicology* 5:59-65.
- Blais JF, Tyagi RD, Auclair JC. 1993. Metals removal from sewage sludge by indigenous iron-oxidizing bacteria. *J Environ Sci Health (A)* 28:443-467.
- +*Blazak WF, Brown GL, Gray TJB, et al. 1996. Developmental toxicity study of mangafodipir trisodium injection (MnDPDP) in New Zealand white rabbits. *Fundam Appl Toxicol* 33:11-15.
- +*Blond M, Netterstrom B. 2007. Neuromotor function in a cohort of Danish steel workers. *Neurotoxicology* 28:336-344.
- +*Blond M, Netterstrom B, Laursen P. 2007. Cognitive function in a cohort of Danish steel workers. *Neurotoxicology* 28:328-335.
- *Bock NA, Paiva FF, Nascimento GC, et al. 2008. Cerebrospinal fluid to brain transport of manganese in a non-human primate revealed by MRI. *Brain Res* 1198:160-170.

9. REFERENCES

- *Bolte S, Normandin L, Kennedy G, et al. 2004. Human exposure to respirable manganese in outdoor and indoor air in urban and rural areas. *J Toxicol Environ Health A* 67:459-467.
- Bolze MS, Reeves RD, Lindbeck FE, et al. 1985. Influence of manganese on growth, somatomedin and glycosaminoglycan metabolism. *J Nutr* 115:352-358.
- +Bona MA, Castellano M, Plaza L, et al. 1992. Determination of heavy metals in human liver. *Hum Exp Toxicol* 11:311-313.
- Bonilla E. 1978a. Flameless atomic absorption spectrophotometric determination of manganese in rat brain and other tissues. *Clin Chem* 24:471-474.
- +*Bonilla E. 1978b. Increased GABA content in caudate nucleus of rats after chronic manganese chloride administration. *J Neurochem* 31:551-552.
- +*Bonilla E. 1980. L-tyrosine hydroxylase activity in the rat brain after chronic oral administration of manganese chloride. *Neurobehav Toxicol* 2:37-41.
- +*Bonilla E, Prasad AL. 1984. Effects of chronic manganese intake on the levels of biogenic amines in rat brain regions. *Neurobehav Toxicol Teratol* 6:341-344.
- +*Boojar MMA, Goodarzi F. 2002. A longitudinal follow-up of pulmonary function and respiratory symptoms in workers exposed to manganese. *J Occup Environ Med* 44:282-290.
- Boojar MMA, Goodarzi F, Basedaghat MA. 2002. Long-term follow-up of workplace and well water manganese effects on iron status indexes in manganese miners. *Arch Environ Health* 57(6):519-528.
- Borg K, Tjalve H. 1988. Effect of thiram and dithiocarbamate pesticides on the gastrointestinal absorption and distribution of nickel in mice. *Toxicol Lett* 42:87-98.
- Borgstahl GEO, Parge HE, Hickey MJ, et al. 1992. The structure of human mitochondrial manganese superoxide dismutase reveals a novel tetrameric interface of two 4-helix bundles. *Cell Press* 71:107-118.
- +*Boshnakova E, Divanyan H, Zlatarov I, et al. 1989. Immunological screening of welders. *J Hyg Epidemiol Microbiol Immunol* 33:379-382.
- +*Bouchard M, Mergler D, Baldwin M, et al. 2003. Blood manganese and alcohol consumption interact on mood states among manganese alloy production workers. *Neurotoxicology* 24:641-647.
- +*Bouchard M, Mergler D, Baldwin M. 2005. Manganese exposure and age: Neurobehavioral performance among alloy production workers. *Environ Toxicol Pharmacol* 19(3):687-694.
- +*Bouchard M, Mergler D, Baldwin M, et al. 2007b. Neurobehavioral functioning after cessation of manganese exposure: A follow-up after 14 years. *Am J Ind Med* 50:831-840.
- +*Bouchard M, Mergler D, Baldwin M, et al. 2007a. Neuropsychiatric symptoms and past manganese exposure in a ferro-alloy plant. *Neurotoxicology* 28:290-297.
- *Bouchard M, Laforest F, Vandelac L, et al. 2007c. Hair manganese and hyperactive behaviors: Pilot study of school-age children exposed through tap water. *Environ Health Perspect* 115:122-127.

9. REFERENCES

- Boudia N, Halley R, Kennedy G, et al. 2006. Manganese concentrations in the air of the Montreal (Canada) subway in relation to surface automobile traffic density. *Sci Total Environ* 366:143-147.
- Boudissa SM, Lambert J, Muller C, et al. 2006. Manganese concentrations in the soil and air in the vicinity of a closed manganese alloy production plant. *Sci Total Environ* 361:67-72.
- Bowler RM, Gysens S, Diamond E, et al. 2006b. Manganese exposure: Neuropsychological and neurological symptoms and effects in welders. *Neurotoxicology* 27:315-326.
- Bowler RM, Koller W, Schulz PE. 2006a. Parkinsonism due to manganism in a welder: Neurological and neuropsychological sequelae. *Neurotoxicology* 27:327-332.
- +*Bowler RM, Mergler D, Sasseine MP, et al. 1999. Neuropsychiatric effects of manganese on mood. *Neurotoxicology* 20:367-378.
- Bowler RM, Nakagawa S, Drezgic M, et al. 2007a. Sequelae of fume exposure in confined space welding: A neurological and neuropsychological case series. *Neurotoxicology* 28:298-311.
- Bowler RM, Roels HA, Nakagawa S, et al. 2007b. Dose-effect relationships between manganese exposure and neurological, neuropsychological and pulmonary function in confined space bridge welders. *Occup Environ Med* 64:167-177.
- +Boyce W, Witzleben CL. 1973. Bilirubin as a cholestatic agent. II. Effect of variable doses of bilirubin on the severity of manganese-bilirubin cholestasis. *Am J Pathol* 72:427-432.
- Boyer PD, Shaw JH, Phillips PH. 1942. Studies on manganese deficiency in the rat. *J Biol Chem* 143:417-425.
- Brain JD, Hellig E, Donaghey TC, et al. 2006. Effects of iron status on transpulmonary transport and tissue distribution of Mn and Fe. *Am J Respir Cell Mol Biol* 34:330-337.
- *Brault N, Loranger S, Courchesne F, et al. 1994. Bioaccumulation of manganese by plants: Influence of MMT as a gasoline additive. *Sci Total Environ* 153:77-84.
- +*Bredow S, Falgout MM, March TH, et al. 2007. Subchronic inhalation of soluble manganese induces expression of hypoxia-associated angiogenic genes in adult mouse lungs. *Toxicol Appl Pharmacol* 221:148-157.
- +*Brenneman KA, Cattley RC, Ali SF, et al. 1999. Manganese-induced developmental neurotoxicity in the CD rat: Is oxidative damage a mechanism of action? *Neurotoxicology* 20:477-488.
- *Brenneman KA, Wong BA, Buccellato MA, et al. 2000. Direct olfactory transport of inhaled manganese (54MnCl₂) to the rat brain: Toxicokinetic investigations in a unilateral nasal occlusion model. *Toxicol Appl Pharmacol* 169:238-248.
- Brenner SR. 2006. Searching for a relationship between manganese and welding and Parkinson's disease (Comment on: *Neurology* 2005; 64:2021-2028). *Neurology* 66:458-461.
- +Britton AA, Cotzias GC. 1966. Dependence of manganese turnover on intake. *Am J Physiol* 211:203-206.

9. REFERENCES

- +Brock AA, Chapman SA, Ulman EA, et al. 1994. Dietary manganese deficiency decreases rat hepatic arginase activity. *J Nutr* 124:340-344.
- Brock ER, Schlatter C. 1979. Influence of some cations on the intestinal absorption of maneb. *J Agric Food Chem* 27:303-306.
- Brock ER, Schlatter C. 1980. Dose dependence of the excretion of maneb metabolites in urine of rats. *Toxicol Lett* 6(4-5):221-224.
- Bronstein AC, Currance PL. 1988. Emergency care for hazardous materials exposure. St. Louis, MO: The C.V. Mosby Company, 191-192.
- +*Brouillet EP, Shinobu L, McGarvey U, et al. 1993. Manganese injection into the rat striatum produces excitotoxic lesions by impairing energy metabolism. *Exp Neurol* 120:89-94.
- +Brown DSO, Wills CE, Yousefi V, et al. 1991. Neurotoxic effects of chronic exposure to manganese dust. *Neuropsychiatry Neuropsychol Behav Neurol* 4(3):238-250.
- *Brown RP, Delp MD, Lindstedt SL, et al. 1997. Physiological parameter values for physiologically based pharmacokinetic models. *Toxicol Ind Health* 13(4):407-484.
- Bruemmer GW, Gerth J, Herms U. 1986. Heavy metal species, mobility and availability in soils. *Zeitschrift Fur Pflanzenernaehr Bodenk* 149:382-398.
- Brurok H, Ardenjaer-Larsen JH, Hansson G, et al. 1999. Manganese dipyridoxyl diphosphate: MRI contrast agent with antioxidative and cardioprotective properties? In vitro and ex vivo assessments. *Biochem Biophys Res Commun* 254:768-772.
- Brurok H, Schojtt J, Berg K, et al. 1995. Effects of manganese dipyridoxyl diphosphate, dipyridoxyl diphosphate⁻, and manganese chloride on cardiac function. *Invest Radiol* 30(3):159-167.
- +Brurok H, Schjott J, Berg K, et al. 1997. Manganese and the heart: Acute cardiodepression and myocardial accumulation of manganese. *Acta Physiol Scand* 159:33-40.
- Buchet JP, Lauwers R, Roels H. 1976. Determination of manganese in blood and urine by flameless atomic absorption spectrophotometry. *Clin Chim Acta* 73:481-486.
- Burry JN. 1976. Contact dermatitis from agricultural fungicide in south Australia. *Contact Dermatitis* 6:348-349.
- Buschmann J, Berg M, Stengel C, et al. 2007. Arsenic and manganese contamination of drinking water resources in Cambodia: Coincidence of risk areas with low relief topography. *Environ Sci Technol* 41:2146-2152.
- Calabrese EJ, Barnes R, Stanek EJ, et al. 1989. How much soil do young children ingest: An epidemiologic study. *Regul Toxicol Pharmacol* 10:123-137.
- +*Calabresi P, Ammassari-Teule M, Gubellini P, et al. 2001. A synaptic mechanism underlying the behavioral abnormalities induced by manganese intoxication. *Neurobiol Dis* 9:419-432.

9. REFERENCES

- Calmano W, Ahlf W, Forstner U. 1988. Study of metal sorption/desorption processes on competing sediment components with a multichamber device. *Environ Geol Water Sci* 11:77-84.
- *Calne DB, Chu NS, Huang CC, et al. 1994. Manganism and idiopathic Parkinsonism: Similarities and differences. *Neurology* 44:1583-1586.
- Calumpang SMF, Medina MJB, Roxas NP, et al. 1993. Movement and degradation of mancozeb fungicide and its metabolites, ethylenethiourea and ethyleneurea, in silty clay loam soils. *Int J Pest Management* 39:161-166.
- +*Camner P, Curstedt T, Jarstrand C, et al. 1985. Rabbit lung after inhalation of manganese chloride: A comparison with the effects of chlorides of nickel, cadmium, cobalt, and copper. *Environ Res* 38:301-309.
- *Campbell KI, George EL, Hall LL, et al. 1975. Dermal irritancy of metal compounds: Studies with palladium, platinum, lead, and manganese compounds. *Arch Environ Health* 30:168-170.
- *Capar SG, Cunningham WC. 2000. Element and radionuclide concentrations in food: FDA total diet study 1991-1996. *J AOAC Int* 83(1):157-177.
- Carl GF, Gallagher BB. 1994. Manganese and epilepsy. In: Klimis-Tavantzis DJ, ed. *Manganese in health and disease*. Boca Raton, FL: CRC Press, 133-144.
- +*Carl GF, Blackwell LK, Barnett FC, et al. 1993. Manganese and epilepsy: Brain glutamine synthetase and liver arginase activities in genetically epilepsy prone and chronically seized rats. *Epilepsia* 34:441-446.
- Carson BL, Ellis HV, McCann JL, eds. 1987. Manganese. In: *Toxicology and biological monitoring of metals in humans including feasibility and need*. Chelsea, MI: Lewis Publishers, Inc., 145-149.
- *Carter JC, Miller WJ, Neathery MW, et al. 1974. Manganese metabolism with oral and intravenous ^{54}Mn in young calves as influenced by supplemental manganese. *J Animal Sci* 38:1284-1290.
- +*Carter SD, Hein JF, Rehnberg GL, et al. 1980. Chronic manganese oxide ingestion in rats: Hematological effects. *J Toxicol Environ Health* 6:207-216.
- *Casarett W, Klaassen CD, Doull, J. 2001. Casarett and Doull's toxicology: The basic science of poisons. 6th ed. New York: McGraw-Hill, 844.
- *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.
- Cawte J. 1985. Psychiatric sequelae of manganese exposure in the adult, foetal and neonatal nervous system. *Aust NZ J Psychiatry* 19:211-217.
- +Cawte J. 1991. Environmental manganese toxicity. *Med J Austral* 154:291-292.
- +*Cawte J, Hams G, Kilburn C. 1987. Manganism in a neurological ethnic complex in nothern Australia [Letter]. *Lancet* 1(8544):1257.

9. REFERENCES

- +*Cawte J, Kilburn C, Florence M. 1989. Motor neurone disease of the Western Pacific: Do the foci extend to Australia? *Neurotoxicity* 10:263-270.
- *CDHS. 1990. Written communication regarding levels of manganese found in private wells. Hartford, CT: Connecticut Department of Health Services.
- CEH. 1980. Manganese-salient statistics. In: *Chemical economics handbook*. Menlo Park, CA: SRI International.
- +*Centonze D, Gubellini P, Bernardi G, et al. 2001. Impaired excitatory transmission in the striatum of rats chronically intoxicated with manganese. *Exp Neurol* 172(2):469-476.
- +*Chan AW, Minski MJ, Lim L, et al. 1992. Changes in brain regional manganese and magnesium levels during postnatal development: Modulations by chronic manganese administration. *Metab Brain Dis* 7:21-33.
- Chan WY, Bates JM, Rennert OM, et al. 1984. Intestinal transport of manganese from human milk, bovine milk and infant formula in rats. *Life Sci* 35:2415-2419.
- +*Chandra SV. 1972. Histological and histochemical changes in experimental manganese encephalopathy in rabbits. *Arch Toxicol* 29:29-38.
- +*Chandra SV. 1983. Psychiatric illness due to manganese poisoning. *Acta Psychiatr Scand* 67(Suppl 303):49-54.
- +*Chandra SV, Imam Z. 1973. Manganese induced histochemical and histological alterations in gastrointestinal mucosa of guinea pigs. *Acta Pharmacol Toxicol* 33:449-458.
- +*Chandra SV, Shukla GS. 1978. Manganese encephalopathy in growing rats. *Environ Res* 15:28-37.
- +*Chandra SV, Shukla GS. 1981. Concentrations of striatal catecholamines in rats given manganese chloride through drinking water. *J Neurochem* 36:683-687.
- *Chandra SV, Tandon SK. 1973. Enhanced manganese toxicity in iron-deficient rats. *Environ Physiol Biochem* 3:230-235.
- +*Chandra SV, Ara R, Nagar N, et al. 1973. Sterility in experimental manganese toxicity. *Acta Biol Med Ger* 30:857-862.
- +Chandra SV, Saxena DK, Hasan MZ. 1975. Effect of zinc on manganese induced testicular injury in rats. *Ind Health* 13:51-56.
- +Chandra SV, Shukla GS, Srivastava RS. 1981. An exploratory study of manganese exposure to welders. *Clin Toxicol* 18:407-416.
- Chen CJ, Ou YC, Lin SY, et al. 2006. Manganese modulates pro-inflammatory gene expression in activated glia. *Neurochem Int* 49:62-71.
- Chen JY, Tsao GC, Zhao Q, et al. 2001. Differential cytotoxicity of Mn(II) and Mn(III): Special reference to mitochondrial [Fe-S] containing enzymes. *Toxicol Appl Pharmacol* 175:160-168.

9. REFERENCES

- Cheng J, Fu JL, Zhou ZC. 2003. The inhibitory effects of manganese on steroidogenesis in rat primary Leydig cells by disrupting steroidogenic acute regulatory (StAR) protein expression. *Toxicology* 187:139-148.
- Cheng J, Fu JL, Zhou ZC. 2005. The mechanism of manganese-induced inhibition of steroidogenesis in rat primary Leydig cells. *Toxicology* 211:1-11.
- Chernoff N, Kavlock RJ, Rogers EH, et al. 1979. Perinatal toxicity of maneb, ethylene thiourea, and ethylenbisothiocyanate sulfide in rodents. *J Toxicol Environ Health* 5:821-834.
- Chetty CS, Reddy GR, Suresh A, et al. 2001. Effects of manganese on inositol polyphosphate receptors and nitric oxide synthase activity in rat brain. *Int J Toxicol* 20:275-280.
- +*Chia SE, Foo SC, Gan SL, et al. 1993a. Neurobehavioral functions among workers exposed to manganese ore. *Scand J Work Environ Health* 19:264-270.
- +*Chia SE, Gan SL, Chua LH, et al. 1995. Postural stability among manganese exposed workers. *Neurotoxicology* 16:519-526.
- Chia SE, Phoon WH, Lee HS, et al. 1993b. Exposure to neurotoxic metals among workers in Singapore: An overview. *Occup Med* 43:18-22.
- Choi CJ, Anantharam V, Saetveit NJ, et al. 2007a. Normal cellular prion protein protects against manganese-induced oxidative stress and apoptotic cell death. *Toxicol Sci* 92(2):495-509.
- Choi DS, Kim EA, Cheong H, et al. 2007b. Evaluation of MR signal index for the assessment of occupational manganese exposure of welders by measurement of local proton T relaxation time. *Neurotoxicology* 28:284-289.
- *Chowdhury BA, Chandra RK. 1987. Biological and health implications of toxic heavy metal and essential trace element interactions. *Prog Food Nutr Sci* 11:55-113.
- Chu N. 2004. Effect of levodopa treatment for parkinsonism in welders: A double-blind study (Comment on: *Neurology* 2004; 62:730-733). *Neurology* 63:1541-1544.
- *Chu NS, Hochberg FH, Calne DB, et al. 1995. Neurotoxicity of manganese. In: Chang L, Dwyer R, eds. *Handbook of neurotoxicology*. New York, NY: Marcel Dekker, Inc., 91-103.
- Cikrt M, Bencko V. 1975. Biliary excretion of 7Be and its distribution after intravenous administration of 7BeCl₂ in rats. *Arch Toxicol* 34:53-60.
- +Clay RJ, Morris JB. 1989. Comparative pneumotoxicity of cyclopentadienyl manganese tricarbonyl and methylcyclopentadienyl manganese tricarbonyl. *Toxicol Appl Pharmacol* 98:434-443.
- Clegg MS, Lönnardal B, Hurley LS, et al. 1986. Analysis of whole blood manganese by flameless atomic absorption spectrophotometry and its use as an indicator of manganese status in animals. *Anal Biochem* 157:12-18.
- *Clewel HJ, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1(4):111-131.

9. REFERENCES

- *Clewell HJ, Crump KS. 1999. Benchmark dose analysis of the neurological effects of managanese in smelter workers. Agency for Toxic Substances and Disease Registry
- *Clewell HJ, Lawrence GA, Calne DB, et al. 2003. Determination of an occupational exposure guideline for manganese using the benchmark method. Risk Anal 23(5):1031-1046.
- *Cockell KA, Bonacci G, Belonje B. 2004. Manganese content of soy or rice beverages is high in comparison to infant formulas. J Am Coll Nutr 23(2):134-130.
- Coe M, Cruz R, Van Loon JC. 1980. Determination of methylcyclopentadienyl manganese-tricarbonyl by gas chromatography-atomic absorption spectrometry at ng m-3 levels in air samples. Anal Chim Acta 120:171-176.
- Cohen G. 1984. Oxy-radical in catecholamine neurons. Neurotoxicology 5:77-82.
- Cohen JM, Kamphake LJ, Harris EK, et al. 1960. Taste threshold concentrations of metals in drinking water. J Am Water Works Assoc (May):660-670.
- Colet JM, Elst LV, Muller RN. 1998. Dynamic evaluation of the hepatic uptake and clearance of manganese-based MRI contrast agents: A 31P NMR study on the isolated and perfused rat liver. J Magn Reson Imaging 8(3):663-669.
- +*Collipp PJ, Chen SY, Maitinsky S. 1983. Manganese in infant formulas and learning disability. Ann Nutr Metab 27:488-494.
- +*Colomina MT, Domingo JL, Llobet JM, et al. 1996. Effect of day of exposure on the developmental toxicity of manganese in mice. Vet Hum Toxicol 38:7-9.
- *Cook KK. 1997. Extension of dry ash atomic absorption and spectrophotometric methods to determination of minerals and phosphorus in soy-based, whey-based, and enteral formulae (Modification of AOAC official methods 985.35 and 986.24): Collaborative study. J AOAC Int 80:834-844.
- +*Cook DG, Fahn S, Brait KA. 1974. Chronic manganese intoxication. Arch Neurol 30:59-64.
- Cooper R, Stranks DR. 1966. Vapor pressure measurements. In: Jonassen HB, Weissberg A, eds. Technique of inorganic chemistry. Vol. VI. New York, NY: John Wiley and Sons, 1-82.
- *Cooper RM, Istok JD. 1988. Geostatistics applied to groundwater contamination. II: Application. J Environ Eng 114:287-299.
- *Cooper WC. 1984. The health implications of increased manganese in the environment resulting from the combustion of fuel additives: A review of the literature. J Toxicol Environ Health 14:23-46.
- Cordier S, Theriault G, Iturra H. 1983. Mortality patterns in a population living near a copper smelter. Environ Res 31:311-322.
- Cory-Slechta DA, Thiruchelvam M, Barlow BK, et al. 2005. Developmental pesticide models of the Parkinson disease phenotype. Environ Health Perspect 113(9):1263-1270.
- Cotton FA, Wilkinson G. 1972. Manganese. In: Advanced inorganic chemistry. New York, NY: Interscience Publisher, 845-855.

9. REFERENCES

- *Cotzias GC. 1958. Manganese in health and disease. *Physiol Rev* 38:503-533.
- +*Cotzias GC, Horiuchi K, Fuenzalida S, et al. 1968. Chronic manganese poisoning: Clearance of tissue manganese concentrations with persistence of the neurological picture. *Neurology* 18:376-382.
- *Cotzias GC, Miller ST, Papavasiliou PS, et al. 1976. Interactions between manganese and brain dopamine. *Med Clin North Am* 60:729-738.
- *Cotzias GC, Papavasiliou PS, Miller ST. 1964. Manganese in melanin. *Nature* 201:1228-1229.
- +Cox DN, Traiger GJ, Jacober SP, et al. 1987. Comparison of the toxicity of methylcyclopentadienyl manganese tricarbonyl with that of its two major metabolites. *Toxicol Lett* 39:1-5.
- Crippa M, Misquith L, Lonati A, et al. 1990. Dyshidrotic eczema and sensitization to dithiocarbamates in a florist. *Contact Dermatitis* 23:203-204.
- +Critchfield JW, Keen CL. 1992. Manganese +2 exhibits dynamic binding to multiple ligands in human plasma. *Metabolism* 41:1087-1092.
- *Critchfield JW, Carl GF, Keen CL. 1993. The influence of manganese supplementation on seizure onset and severity, brain monoamines in the genetically epilepsy prone rat. *Epilepsy Res* 14:3-10.
- Crittenden PL, Filipov NM. 2008. Manganese-induced potentiation of in vitro proinflammatory cytokine production by activated microglial cells is associated with persistent activation of p38 MAPK. *Toxicol In Vitro* 22:18-27.
- Crooks DR, Welch N, Smith DR. 2007a. Low-level manganese exposure alters glutamate metabolism in GABAergic AF5 cells. *Neurotoxicology* 28:548-554.
- Crooks DR, Ghosh MC, Braun-Sommargren M, et al. 2007b. Manganese targets m-aconitase and activates iron regulatory protein 2 in AF5 GABAergic cells. *J Neurosci Res* 2007(85):1797-1809.
- Cross DJ, Flexman JA, Anzai Y, et al. 2006. In vivo imaging of functional disruption, recovery and alteration in rat olfactory circuitry after lesion. *Neuroimage* 32:1265-1272.
- *Cross DJ, Minoshima S, Anzai Y, et al. 2004. Statistical mapping of functional olfactory connections of the rat brain in vivo. *Neuroimage* 23:1326-1335.
- *Crossgrove J, Zheng W. 2004. Review article. Manganese toxicity upon overexposure. *NMR Biomed* 17:544-553.
- *Crossgrove JS, Yokel RA. 2004. Manganese distribution across the blood-brain barrier III. The divalent metal transporter-1 is not the major mechanism mediating brain manganese uptake. *Neurotoxicology* 25(3):451-460.
- *Crossgrove JS, Yokel RA. 2005. Manganese distribution across the blood-brain barrier IV. Evidence of brain influx through store-operated calcium channels. *Neurotoxicology* 26:297-307.

9. REFERENCES

- Crossgrove JS, Allen DD, Bukaveckas BL, et al. 2003. Manganese distribution across the blood-brain barrier I. Evidence for carrier-mediated influx of manganese citrate as well as manganese and manganese transferrin. *Neurotoxicology* 24:3-13.
- *Crump KS. 2000. Manganese exposure in Toronto during use of the gasonline additive, methylcyclopentadienyl manganese tricarbonyl. *J Expo Anal Environ Epidemiol* 10(3):227-239.
- +*Crump KS, Rousseau P. 1999. Results from eleven years of neurological health surveillance at a manganese oxide and salt producing plant. *Neurotoxicology* 20:273-286.
- *Curtin D, Ryan J, Chaudhary RA. 1980. Manganese adsorption and desorption in calcareous Lebanese soils. *Soil Sci Soc Am J* 44:947-950.
- Daniels AI, Everson GJ. 1935. The relation of manganese to congenital debility. *J Nutr* 9:191-203.
- +*Daniels AJ, Abarca J. 1991. Effect of intranigral Mn²⁺ on striatal and nigral synthesis and levels of dopamine and cofactor. *Neurotoxicol Teratol* 13:483-487.
- +Dastur DK, Manghani DK, Raghavendran KV, et al. 1969. Distribution and fate of Mn⁵⁴ in the rat, with special reference to the C.N.S. *Q J Exp Physiol* 54:322-331.
- +*Dastur DK, Manghani DK, Raghavendran KV. 1971. Distribution and fate of 54Mn in the monkey: Studies of different parts of the central nervous system and other organs. *J Clin Invest* 50:9-20.
- +*Davidson LA, Lönnerdal B. 1989. Fe-saturation and proteolysis of human lactoferrin: Effect on brush-border receptor-mediated uptake of Fe and Mn. *Am J Physiol* 257(6Pt1):G930-934.
- +*Davidsson L, Cederblad A, Hagebo E, et al. 1988. Intrinsic and extrinsic labeling for studies of manganese absorption in humans. *J Nutr* 118:1517-1524.
- +*Davidsson L, Cederblad A, Lönnerdal B, et al. 1989a. Manganese retention in man: A method for estimating manganese absorption in man. *Am J Clin Nutr* 49:170-179.
- *Davidsson L, Cederblad A, Lönnerdal B, et al. 1989b. Manganese absorption from human milk, cow's milk, and infant formulas in humans. *Am J Dis Child* 143:823-827.
- *Davis JM. 1998. Methylcyclopentadienyl manganese tricarbonyl: Health risk uncertainties and research directions. *Environ Health Perspect Suppl* 106(1):191-201.
- +*Davis CD, Greger JL. 1992. Longitudinal changes of manganese-dependent superoxide dismutase and other indices of manganese and iron status in women. *Am J Clin Nutr* 55:747-752.
- +*Davis CD, Malecki EA, Greger JL. 1992a. Interactions among dietary manganese, heme iron and non-heme iron in women. *Am J Clin Nutr* 56:926-932.
- +Davis CD, Ney DM, Greger JL. 1990. Manganese, iron and lipid interactions in rats. *J Nutr* 120:507-513.
- +*Davis CD, Wolf TL, Greger JL. 1992b. Varying levels of manganese and iron affect absorption and gut endogenous losses of manganese by rats. *J Nutr* 122:1300-1308.

9. REFERENCES

- +*Davis CD, Zech L, Greger JL. 1993. Manganese metabolism in rats: An improved methodology for assessing gut endogenous losses. *Proc Soc Exp Biol Med* 202:103-108.
- *Davis DW, Hsiao K, Ingels R, et al. 1988. Origins of manganese in air particulates in California. *J Air Pollut Control Assoc* 38:1152-1157.
- Davis JM. 1999. Inhalation health risks of manganese: An EPA perspective. *Neurotoxicology* 20:511-518.
- Davis JM, Jarabek AM, Mage DT, et al. 1998. The EPA health risk assessment of methylcyclopentadienyl manganese tricarbonyl (MMT). *Risk Anal* 18:57-70.
- Davison RL, Natusch DFS, Wallace JR, et al. 1974. Trace elements in fly ash: Dependence of concentration on particle size. *Environ Sci Technol* 8:1107-1113.
- de Bie RMA, Gladstone RM, Strafella AP, et al. 2007. Manganese-induced Parkinsonism associated with methcathinone (ephedrone) abuse. *Arch Neurol* 64:886-889.
- de Burbure C, Buchet JP, Leroyer A, et al. 2006. Renal and neurologic effects of cadmium, lead, mercury, and arsenic in children: Evidence of early effects and multiple interactions at environmental exposure levels. *Environ Health Perspect* 114(4):584-590.
- *de Carvalho E, Faria V, Loureiro A, et al. 1989. Acute renal failure and nephrotic syndrome after maneb exposure: A new case with light and electron microscopic study. *Acta Med Port* 1989 2:215-218.
- de Lamirande E, Plaa GL. 1978. Role of manganese, bilirubin and sulfobromophthalein in manganese-bilirubin cholestasis in rats (40189). *Proc Soc Exp Biol Med* 158:283-287.
- +de Lamirande E, Tuchweber B, Plaa GL. 1982. Morphological aspects of manganese-bilirubin induced cholestasis. *Liver* 2:22-27.
- *De Méo M, Laget M, Castegnaro M, et al. 1991. Genotoxic activity of potassium permanganate in acidic solutions. *Mutat Res* 260:295-306.
- De Paris P, Caroldi S. 1995. In vitro effect of dithiocarbamate pesticides and of CaNa₂ EDTA on human serum dopamine beta-hydroxylase. *Biomed Environ Sci* 8:114-121.
- *Deschamps FJ, Guillamot M, Raux S. 2001. Neurological effects in workers exposed to manganese. *J Occup Environ Med* 43(2):127-132.
- de Sousa PL, Souza SL, Silva AC, et al. 2007. Manganese-enhanced magnetic resonance imaging (MEMRI) of rat brain after systemic administration of MnCl₂: Changes in T1 relaxation times during postnatal development. *J Magn Reson Imaging* 25:32-38.
- *DEA. 2007. Records and reports of listed chemicals and certain machines. U.S. Drug Enforcement Administration. Code of Federal Regulations. 21 CFR 1310.02.
http://www.access.gpo.gov/nara/cfr/waisidx_07/21cfrv9_07.html. April 29, 2008.
- +*Deschamps FJ, Guillamot M, Raux S. 2001. Neurological effects in workers exposed to manganese. *J Occup Environ Med* 43(2):127-132.

9. REFERENCES

- +*Deskin R, Bursian SJ, Edens FW. 1980. Neurochemical alterations induced by manganese chloride in neonatal rats. *Neurotoxicology* 2:65-73.
- +*Deskin R, Bursian SJ, Edens FW. 1981. The effect of chronic manganese administration on some neurochemical and physiological variables in neonatal rats. *Gen Pharmacol* 12:279-280.
- *Desole MS, Esposito G, Micheli R, et al. 1995. Allopurinol protects against manganese-induced oxidative stress in the striatum and in the brainstem of the rat. *Neurosci Lett* 192:73-76.
- +*Desole MS, Esposito G, Micheli R, et al. 1997. Glutathione deficiency potentiates manganese toxicity in rat striatum and brainstem and in PC12 cells. *Pharmacol Res* 36(4):285-292.
- +*Desole MS, Miele M, Esposito G, et al. 1994. Dopaminergic system activity and cellular defense mechanisms in the striatum and striatal synaptosomes of the rat subchronically exposed to manganese. *Arch Toxicol* 68:566-570.
- +*Devenyi AG, Barron TF, Mamourian AC. 1994. Dystonia, hyperintense basal ganglia, and whole blood manganese levels in Alagille's syndrome. *Gastroenterology* 106:1068-1071.
- *Deverel SJ, Millard SP. 1988. Distribution and mobility of selenium and other trace elements in shallow groundwater of the western San Joaquin Valley, California. *Environ Sci Technol* 22:697-702.
- Diamond GL, Goodrum PE, Felter SP, et al. 1998. Gastrointestinal absorption of metals. *Drug Chem Toxicol* 21(2):223-251.
- Diaz-Veliz G, Mora S, Gomez P, et al. 2004. Behavioral effects of manganese injected in the rat substantia nigra are potentiated by dicumarol, a DT-diaphorase inhibitor. *Pharmacol Biochem Behav* 77:245-251.
- +Dieter HH, Rotard W, Simon J, et al. 1992. Manganese in natural mineral waters from Germany. *Die Nahrung* 5:488-484.
- +*Duez-Ewald M, Weintraub LR, Crosby WH. 1968. Interrelationship of iron and manganese metabolism. *Proc Soc Exp Biol Med* 129:448-451.
- +*Dikshith TS, Chandra SV. 1978. Cytological studies in albino rats after oral administration of manganese chloride. *Bull Environ Contam Toxicol* 19:741-746.
- *Doisy EA. 1973. Effects of deficiency in manganese upon plasma levels of clotting proteins and cholesterol in man. Trace element metabolism. In: Hoekstra WG, Suttie JW, Ganther AE, et al., eds. *Animals-2*, 2nd Ed. Baltimore, MD: University Park Press, 668-670.
- Donaldson J. 1984. Involvement of manganese in physiological and biochemical processes: An overview. *Neurotoxicology* 5:1-3.
- *Donaldson J. 1987. The physiopathologic significance of manganese in brain: Its relation to schizophrenia and neurodegenerative disorders. *Neurotoxicology* 8:451-462.
- Donaldson J, LaBella FS. 1984. The effects of manganese on the cholinergic receptor in vivo and in vitro may be mediated through modulation of free radicals. *Neurotoxicology* 5:105-112.

9. REFERENCES

- Donaldson J, LaBella FS, Gesser D. 1980. Enhanced autoxidation of dopamine as a possible basis of manganese neurotoxicity. *Neurotoxicity* 2:53-64.
- Donaldson J, McGregor D, LaBella F. 1982. Manganese neurotoxicity: A model for free radical mediated neurodegeneration? *Can J Physiol Pharmacol* 60:1398-1405.
- Dorman DC. 2006. Neurotoxicity of inhaled manganese: A reanalysis of human exposure arising from showering. *Med Hypotheses* 66(1):199-200.
- *Dorman DC, Brenneman KA, McElveen AM, et al. 2002a. Olfactory transport: A direct route of delivery of inhaled manganese phosphate to the rat brain. *J Toxicol Environ Health* 65(20):1493-1511.
- *Dorman DC, McElveen AM, Marshall MW, et al. 2005b. Maternal-fetal distribution of manganese in the rat following inhalation exposure to manganese sulfate. *NeuroToxicology* 26:625-632.
- *Dorman DC, McElveen AM, Marshall MW, et al. 2005a. Tissue manganese concentrations in lactating rats and their offspring following combined in utero and lactation exposure to inhaled manganese sulfate. *Toxicol Sci* 84:12-21.
- *Dorman DC, McManus BE, Marshall MW, et al. 2004a. Old age and gender influence the pharmacokinetics of inhaled manganese sulfate and manganese phosphate in rats. *Toxicol Appl Pharmacol* 197:113-124.
- +*Dorman DC, McManus BE, Parkinson CU, et al. 2004b. Nasal toxicity of manganese sulfate and manganese phosphate in young male rats following subchronic (13-week) inhalation exposure. *Inhal Toxicol* 16(6-7):481-488.
- +*Dorman DC, Struve MF, Gross EA, et al. 2005c. Sub-chronic inhalation of high concentrations of manganese sulfate induces lower airway pathology in rhesus monkeys. *Respir Res* 6(1):121. <http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1283983&blobtype=pdf>. May 5, 2008.
- *Dorman DC, Struve MF, James RA, et al. 2001b. Influence of dietary manganese on the pharmacokinetics of inhaled manganese sulfate in male CD rats. *Toxicol Sci* 60:242-251.
- *Dorman DC, Struve MF, James RA, et al. 2001a. Influence of particle solubility on the delivery of inhaled manganese to the rat brain: Manganese sulfate and manganese tetroxide pharmacokinetics following repeated (14-day) exposure. *Toxicol Appl Pharmacol* 170:79-87.
- +*Dorman DC, Struve MF, Marshall MW, et al. 2006a. Tissue manganese concentrations in young male Rhesus monkeys following subchronic manganese sulfate inhalation. *Toxicol Sci* 92(1):201-210.
- +*Dorman DC, Struve MF, Vitarella D, et al. 2000. Neurotoxicity of manganese chloride in neonatal and adult CD rats following subchronic (21-day) high-dose oral exposure. *J Appl Tox* 20(3):179-187.
- Dorman DC, Struve MF, Wong BA. 2002b. Brain manganese concentrations in rats following manganese tetroxide inhalation are unaffected by dietary manganese intake. *Neurotoxicology* 23(2):185-195.
- *Dorman DC, Struve MF, Wong, et al. 2006b. Correlation of brain magnetic resonance imaging changes with pallidal manganese concentrations in Rhesus monkeys following subchronic manganese inhalation. *Toxicol Sci* 92(1):219-227.

9. REFERENCES

- +*Dorner K, Dziadzka S, Hohn A, et al. 1989. Longitudinal manganese and copper balances in young infants and preterm infants fed on breast-milk and adapted cow's milk formulas. *Br J Nutr* 61:559-572.
- +Droms KA, Malkinson AM. 1991. Mechanisms of glucocorticoid involvement in mouse lung tumorigenesis. *Exp Lung Res* 17:359-370.
- +*Drown DB, Oberg SG, Sharma RP. 1986. Pulmonary clearance of soluble and insoluble forms of manganese. *J Toxicol Environ Health* 17:201-212.
- Dukhande VV, Malthankar-Phatak GH, Hugus JJ, et al. 2006. Manganese-induced neurotoxicity is differentially enhanced by glutathione depletion in astrocytoma and neuroblastoma cells. *Neurochem Res* 31:1349-1357.
- *DuPuis MD, Hill HH. 1979. Analysis of gasoline for antiknock agents with a hydrogen atmosphere flame ionization detector. *Anal Chem* 51:292-295.
- +*Dupuis Y, Porembaska Z, Tardivel S, et al. 1992. Intestinal transfer of manganese: Resemblance to and competition with calcium. *Reprod Nutr Dev* 32:453-460.
- *Earls JP, Bluemke DA. 1999. New MR imaging contrast agents. *Magn Reson Imaging Clin N Am* 7:255-273.
- *Eckel WP, Langley WD. 1988. A background-based ranking technique for assessment of elemental enrichment in soils at hazardous waste sites. In: *Superfund '88: Proceedings of the 9th National Conference*. Washington, DC, 282-286.
- Egeberg PK, Schaanning M, Naes K, et al. 1988. Modelling the manganese cycling in two stratified fjords. *Marine Chemistry* 23:383-391.
- *Egyed M, Wood GC. 1996. Risk assessment for combustion products of the gasoline additive MMT in Canada. *Sci Total Environ* 189/190:11-20.
- Eisenreich SJ, Looney BB, Thonton JD. 1981. Airborne organic contaminants in the Great Lakes ecosystem. *Environ Sci Technol* 15:30-38.
- +*Ejima A, Imamura T, Nakamura S, et al. 1992. Manganese intoxication during total parenteral nutrition [Letter]. *Lancet* 339:426.
- El-Deiry WS, Downey KM, So AG. 1984. Molecular mechanisms of manganese mutagenesis. *Proc Natl Acad Sci USA* 81:7378-7382.
- +*Elbetieha A, Bataineh H, Darmani H, et al. 2001. Effects of long-term exposure to manganese chloride on fertility of male and female mice. *Toxicol Lett* 119:193-201.
- *Elder A, Gelein R, Silva V, et al. 2006. Translocation of inhaled ultrafine manganese oxide particles to the central nervous system. *Environ Health Perspect* 114(8):1172-1178.
- +*Elias Z, Mur JM, Pierre F, et al. 1989. Chromosome aberrations in peripheral blood lymphocytes of welders and characterization of their exposure by biological samples analysis. *J Occup Med* 31:477-483.

9. REFERENCES

- +*Elizondo G, Fretz CJ, Stark DD, et al. 1991. Preclinical evaluation of MnDPDP: New paramagnetic hepatobiliary contrast agent for MR imaging. *Radiology* 178:73-78.
- Ellingsen DG, Haug E, Gaarder PI, et al. 2003a. Endocrine and immunologic markers in manganese alloy production workers. *Scand J Work Environ Health* 29(3):230-238.
- Ellingsen DG, Haug E, Ulvik RJ, et al. 2003b. Iron status in manganese alloy production workers. *J Appl Toxicol* 23:239-247.
- *Ellingsen DG, Hetland SM, Thomassen Y. 2003c. Manganese air exposures assessment and biological monitoring in the manganese alloy production industry. *J Environ Monit* 5(1):84-90.
- +El-Rahman SS. 2004. Assessment of neuropathology, amino acid profile and bioaccumulation following sub chronic inhalation of manganese phosphate (as one of gasoline combustion products) in male sprague-dawley rats. *Vet Med J* 52(4):495-506.
- +*Emara AM, El-Ghawabi SH, Madkour OI, et al. 1971. Chronic manganese poisoning in the dry battery industry. *Br J Ind Med* 28:78-82.
- *Ensing JG. 1985. Bazooka: Cocaine-base and manganese carbonate. *J Anal Toxicol* 9:45-46.
- +*EPA. 1977. Inhalation toxicology of airborne particulate manganese in rhesus monkeys. Research Triangle Park, NC: U.S. Environmental Protection Agency. EPA600177026. PB268643.
- *EPA. 1978. U.S. Environmental Protection Agency. *Fed Regist* 43:41424-41429.
- *EPA. 1979a. Regulation of fuel and fuel additives MMT. Lifting of suspension of enforcement. U.S. Environmental Protection Agency. *Fed Regist* 44:58952-58965.
- EPA. 1979b. Sources of toxic pollutants found in influents to sewage treatment plants. VI. Integrated interpretation. Washington, DC: U.S. Environmental Protection Agency, Office of Water Planning and Standards. EPA 4404008. PB81219685.
- EPA. 1980. Chemical contaminants in nonoccupationally exposed U.S. residents. Report to U.S. Environmental Protection Agency, Office of Research and Development, Research Triangle Park, NC, by Oak Ridge National Laboratory, Oak Ridge, TN. EPA-600180001.
- *EPA. 1981. Ethyl Corp: Denial of application for fuel waiver; summary of decision. U.S. Environmental Protection Agency. *Fed Regist* 46:58360.
- EPA. 1982. Inductively coupled plasma-atomic emission spectrometric method for trace element analysis of water and wastes—method 200.7. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development.
- *EPA. 1983a. Manganese: Atomic-absorption, direct aspiration—method 243.1. In: Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development. EPA600479020.
- *EPA. 1983b. Manganese. Method 243.2. Atomic absorption, furnace technique. In: Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency, 243.2-1 to 243.2-2. EPA600479020.

9. REFERENCES

*EPA. 1983c. Human exposure to atmospheric concentrations of selected chemicals. Vol. II. Report to U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, by Systems Applications, Incorporated, San Rafael, CA. PB83265249.

+*EPA. 1984. Health assessment document for manganese. Final draft. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development. EPA600883013F.

EPA. 1985a. Chemical identity—manganese, tricarbonyl methylcyclopentadienyl. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Toxic Substances.

EPA. 1985b. Chemical, physical and biological properties of compounds present at hazardous waste sites. Report to U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC, by Clement Associates, Inc., Arlington, VA.

*EPA. 1985c. Locating and emitting air emissions from sources of manganese. Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. EPA450484007h.

*EPA. 1985d. Decision not to regulate manganese under the Clean Air Act. U.S. Environmental Protection Agency. Fed Regist 50:32627-32628.

EPA. 1986a. Acid digestion of sediments, sludges, and soils—method 3050. In: Test methods for evaluating solid waste. 3rd ed. SW-846. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response.

EPA. 1986b. Inductively coupled plasma atomic emission spectroscopy—method 6010. In: Test methods for evaluating solid waste. 3rd ed. SW-846. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response.

*EPA. 1986c. Manganese (atomic absorption, direct aspiration)—method 7460. In: Test methods for evaluating solid waste. 3rd ed. SW-846. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response.

*EPA. 1986d. Air quality criteria for lead. Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office. EPA600833028F.

*EPA. 1987a. Toxic air pollutant/source crosswalk: A screening tool for locating possible sources emitting toxic air pollutants. Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. EPA450487023a.

EPA. 1987b. U.S. Environmental Protection Agency: Part II. Fed Regist 52:13400.

EPA. 1988a. U.S. Environmental Protection Agency: Part II. Fed Regist 53:4500-4501.

EPA. 1988b. Reportable quantity document for tricarbonylmethylcyclopentadienyl manganese. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. ECAO-CIN-R566.

9. REFERENCES

*EPA. 1990. 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. 1993a. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 302.4.

*EPA. 1993b. Drinking water criteria document for manganese. Cincinnati, OH: U.S. Environmental Protection Agency. ECAO-CIN-D008

*EPA. 1994b. Method 200.8. Determination of trace elements in waters and wastes by inductively coupled plasma-mass spectrometry. Revision 5.4. EMMC version. U.S. Environmental Protection Agency. http://www.epa.gov/waterscience/methods/method/files/200_8.pdf. May 02, 2008.

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

*EPA. 1995a. Fuels and fuel additives; grant of waiver application. Fed Regist 60. U.S. Environmental Protection Agency.:36414. <http://frwebgate4.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=279770422119+5+1+0&WAISaction=retrieve>. July 28, 2008.

*EPA. 1995b. Proceedings: Workshop on the bioavailability and oral toxicity of manganese. Washington, DC: Environmental Criteria and Assessment Office, Office of Research and Development, Office of Science and Technology, Office of Water, U.S. Environmental Protection Agency.

*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. 1998. Announcement of the drinking water contaminant candidate list. U.S. Environmental Protection Agency. Fed Regist 63:10274-10287. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?IPaddress=frwais.access.gpo.gov&dbname=1998_register&docid=98-5313-filed.pdf. May 5, 2008.

*EPA. 2000. Benchmark dose technical guidance document. Washington, DC: U.S. Environmental Protection Agency. EPA630R00001.

*EPA. 2003a. Health effects support document for manganese. U.S. Environmental Protection Agency. EPA822R03003.
http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_cc1_magnese_healtheffects.pdf. April 07, 2008.

*EPA. 2003b. National primary drinking water regulations. 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. 2004. Drinking water health advisory for manganese. U.S. Environmental Protection Agency. http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_cc1_magnese_dwreport.pdf. June 19, 2008.

*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

9. REFERENCES

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: U.S. Environmental Protection Agency. EPA822R06013.
<http://www.epa.gov/waterscience/criteria/drinking/dwstandards.pdf>. April 11, 2007.

*EPA. 2006b. High production volume (HPV) challenge program. Final submission for methylcyclopentadienyl manganese tricarbonyl (MMTr). U.S. Environmental Protection Agency.
<http://www.epa.gov/chemrtk/pubs/summaries/mthmntri/c14889rt.pdf>. April 10, 2008.

*EPA. 2006c. 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. Method 6010C. Inductively coupled plasma-atomic emission spectrometry. U.S. Environmental Protection Agency. <http://www.epa.gov/sw-846/pdfs/6010c.pdf>. May 02, 2008.

*EPA. 2007b. 2006 Urban air toxics monitoring program (UATMP) final report. U.S. Environmental Protection Agency. EPA454R08001.
http://www.epa.gov/ttnamti1/files/ambient/airtox/2006_uatmp_final_report.pdf. May 02, 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.

*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. 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>. April 24, 2008.

*EPA. 2008d. 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. 2008e. Inert ingredients permitted for use in nonfood use pesticide products. Washington, DC: U.S. Environmental Protection Agency. <http://www.epa.gov/oppd001/inerts/lists.html>. April 24, 2008.

*EPA. 2008f. 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. 2008g. 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.

Ericson JE, Crinella FM, Clarke-Stewart KA, et al. 2007. Prenatal manganese levels linked to childhood behavioral disinhibition. Neurotoxicol Teratol 29:181-187.

*Erikson K, Aschner M. 2002. Manganese causes differential regulation of glutamate transporter (GLAST) taurine transporter and metallothionein in cultured rat astrocytes. Neurotoxicology 23(4-5):595-602.

9. REFERENCES

- *Erikson KM, Aschner M. 2003. Manganese neurotoxicity and glutamate-GABA interaction. *Neurochem Int* 43:475-480.
- +*Erikson KM, Dorman DC, Fitsanakis V, et al. 2006. Alterations of oxidative stress biomarkers due to in utero and neonatal exposures of airborne manganese. *Biol Trace Elem Res* 111(1-3):199-215.
- Erikson KM, Dorman DC, Lash LH, et al. 2004. Airborne manganese exposure differentially affects endpoints of oxidative stress in age- and sex-dependent manner. *Biol Trace Elem Res* 100: 49-62.
- +*Erikson KM, Dorman DC, Lash LH, et al. 2007. Manganese inhalation by Rhesus monkeys is associated with brain regional changes in biomarkers of neurotoxicity. *Toxicol Sci* 97(2):459-466.
- +*Erikson KM, John CE, Jones SR, et al. 2005. Manganese accumulation in striatum of mice exposed to toxic doses is dependent upon a functional dopamine transporter. *Environ Toxicol Pharmacol* 20:390-394.
- Erikson KM, Suber RL, Aschner M. 2002. Glutamate/aspartate transporter (GLAST), taurine transporter and metallothionein mRNA levels are differentially altered in astrocytes exposed to manganese chloride, manganese phosphate or manganese sulfate. *Neurotoxicology* 23:281-288.
- *Eriksson H, Gillberg PG, Aquilonius SM, et al. 1992a. Receptor alterations in manganese intoxicated monkeys. *Arch Toxicol* 66:359-364.
- +*Eriksson H, Lenngren S, Heilbronn E. 1987a. Effect of long-term administration of manganese on biogenic amine levels in discrete striatal regions of rat brain. *Arch Toxicol* 59:426-431.
- +*Eriksson H, Magiste K, Plantin LO, et al. 1987b. Effects of manganese oxide on monkeys as revealed by a combined neurochemical, histological and neurophysiological evaluation. *Arch Toxicol* 61:46-52.
- +*Eriksson H, Tedroff J, Thuomas K, et al. 1992b. Manganese induced brain lesions in *Macaca fascicularis* as revealed by positron emission tomography and magnetic resonance imaging. *Arch Toxicol* 66:403-407.
- *Evans LJ. 1989. Chemistry of metal retention by soils: Several processes are explained. *Environ Sci Technol* 23:1046-1056.
- +*Exon JH, Koller LD. 1975. Effects of feeding manganese antiknock gasoline additive exhaust residues (Mn_3O_4) in rats. *Bull Environ Contam Toxicol* 14:370-373.
- Fang G, Wu Y, Wen C, et al. 2006. Ambient air particulate concentrations and metallic elements principal component analysis at Taichung Harbor (TH) and WuChi Traffic (WT) near Tawiwan Strait during 2004-2005. *J Hazard Mater* 2006:314-323.
- *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.

9. REFERENCES

- *FDA. 2007c. Food ingredients and packaging. Summary of color additives listed for use in the United States in food, drugs, cosmetics, and medical devices. U.S. Department of Health and Human Services. U.S. Food and Drug Administration. Center for Food Safety and Applied Nutrition. <http://www.cfsan.fda.gov/~dms/opa-col2.html>. June 17, 2008.
- *FDA. 2008. Everything added to food in the United States (EAFUS). U.S. Food and Drug Administration. <http://vm.cfsan.fda.gov/~dms/eafus.html>. April 24, 2008.
- Fechter LD. 1999. Distribution of manganese in development. *Neurotoxicology* 20:197-201.
- *Fechter LD, Johnson DL, Lynch RA. 2002. The relationship of particle size to Olfactory nerve uptake of non-soluble form of manganese into brain. *Neurotoxicology* 23:177-183.
- *Federle MP, Chezmar JL, Rubin DL, et al. 2000. Safety and efficacy of mangafodipir trisodium (MnDPDP) injection for hepatic MRI in adults: Results of the U.S. multicenter phase III clinical trials (safety). *J Magn Reson Imaging* 12(1):186-197.
- *FEDRIP. 2008. Manganese. Federal Research in Progress database. Springfield, VA: National Technical Information Service.
- Fee JA, Shapiro ER, Moss, TH. 1976. Direct evidence for manganese (III) binding to the manganosuperoxide dismutase of Escherichia coli B. *J Biol Chem* 251:6157-6159.
- Feldman RG. 1992. Manganese as possible ecoetiological factor in Parkinson's disease. *Ann NY Acad Sci* 648:266-267.
- *Fell JM, Reynolds AP, Meadows N, et al. 1996. Manganese toxicity in children receiving long-term parenteral nutrition. *Lancet* 347:1218-1221.
- *Fernandez MA, Martinez L, Segarra M, et al. 1992. Behavior of heavy metals in the combustion gases of urban waste incinerators. *Environ Sci Technol* 26:1040-1047.
- Ferraz HB, Bertolucci PH, Pereira JS, et al. 1988. Chronic exposure to the fungicide maneb may produce symptoms and signs of CNS manganese intoxication. *Neurology* 38:550-553.
- Filipov NM, Seegal RF, Lawrence DA. 2005. Manganese potentiates in vitro production of proinflammatory cytokines and nitric oxide by microglia through a nuclear factor kappa B-dependent mechanism. *Toxicol Sci* 84:139-148.
- Finkelstein MM, Jerret M. 2007. A study of the relationships between Parkinson's disease and markers of traffic-derived and environmental manganese air pollution in two Canadian cities. *Environ Res* 104:420-432.
- Finkelstein MM, Boulard M, Wilk N. 1991. Increased risk of lung cancer in the melting department of a second Ontario steel manufacturer. *Am J Ind Med* 19:183-194.
- Finley JW. 1999. Manganese absorption and retention by young women is associated with serum ferritin concentration. *Am J Clin Nutr* 70:37-43.

9. REFERENCES

- Finley JW. 2004. Does environmental exposure to manganese pose a health risk to healthy adults? Brief critical review. *Nutr Rev* 62(4):148-153.
- +*Finley JW, Caton JS, Zhou Z, et al. 1997. A surgical model for determination of true adsorption and biliary excretion of manganese in conscious swine fed commercial diets. *J Nutr* 127:2334-2341.
- +*Finley JW, Penland JG, Pettit RE, et al. 2003. Dietary manganese intake and type of lipid do not affect clinical or neuropsychological measures in healthy young women. *J Nutr* 133:2849-2856.
- Fisher AA. 1983. Occupational dermatitis from pesticides: Patch testing procedures. *Current Contact News* 31:483-508.
- +Fishman BE, McGinley PA, Gianutsos G. 1987. Neurotoxic effects of methylcyclopentadienyl manganese tricarbonyl (MMT) in the mouse: Basis of MMT-induced seizure activity. *Toxicology* 45:193-201.
- *Fitsanakis VA, Aschner M. 2005. The importance of glutamate, glycine, and γ -aminobutyric acid transport and regulation in manganese, mercury and lead neurotoxicity. *Toxicol Appl Pharmacol* 204:343-354.
- *Fitsanakis VA, Au C, Erikson KM, et al. 2006. The effects of manganese on glutamate, dopamine and γ -aminobutyric acid regulation. *Neurochem Int* 48:426-433.
- Fitsanakis VA, Piccola G, Aschner JL, et al. 2005. Manganese transport by rat brain endothelial (RBE4) cell-based transwell model in the presence of astrocyte conditioned media. *J Neurosci Res* 81:235-243.
- +Flaten TP, Bolviken B. 1991. Geographical associations between drinking water chemistry and the mortality and morbidity of cancer and some other diseases in Norway. *Sci Total Environ* 102:75-100.
- Florence TM, Stauber JL. 1988. Neurotoxicology of manganese [Letter]. *Lancet* 1:363.
- *FNB/IOM. 2001. Manganese. 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, 394-419.
http://books.nap.edu/openbook.php?record_id=10026&page=394. April 03, 2008.
- *Folsom TR, Young DR, Johnson JN, et al. 1963. Manganese-54 and zinc-65 in coastal organisms of California. *Nature* 200:327-329.
- *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(Suppl 5):1169-1175.
- +*Forbes GM, Forbes A. 1997. Micronutrient status in patients receiving home parenteral nutrition. *Nutrition* 13:941-944.

9. REFERENCES

- +*Fore H, Morton RA. 1952. Manganese in rabbit tissues. *Biochem J* 51:600-603.
- Fored CM, Fryzek JP, Brandt L, et al. 2006. Parkinson's disease and other basal ganglia or movement disorders in large nationwide cohort of Swedish welders. *Occup Environ Med* 63:135-140.
- *Francis AJ. 1985. Anaerobic microbial dissolution of toxic metals in subsurface environments. Upton, NY: Brookhaven National Laboratory. BNL-36571.
- Francis CW, White GH. 1987. Leaching of toxic metals from incinerator ashes. *J Water Pollut Control Fed* 59:979-986.
- Freeland-Graves J. 1994. Derivation of manganese estimated safe and adequate daily dietary intakes. In: Mertz W, Abernathy CO, Olin SS, eds. Risk assessment of essential elements. Washington, DC: International Life Sciences Institute Press.
- *Freeland-Graves JH, Bales CW, Behmardi F. 1987. Manganese requirements of humans. Nutritional bioavailability of manganese. American Chemical Society, 90-104.
- Freitag D, Ballhorn L, Geyer H, et al. 1985. Environmental hazard profile of organic chemicals: An experimental method for the assessment of the behaviour of organic chemicals in the ecosphere by means of simple laboratory tests with ¹⁴C labelled chemicals. *Chemosphere* 14:1589-1616.
- Fridovich I. 1974. Superoxide dismutases. *Adv Enzymol* 41:35-97.
- *Friedman BJ, Freeland-Graves JH, Bales CW, et al. 1987. Manganese balance and clinical observations in young men fed a manganese-deficient diet. *J Nutr* 117:133-143.
- *Furchner JE, Richmond CR, Drake GA. 1966. Comparative metabolism of radionuclides in mammals III. *Health Phys* 12:1415-1423.
- +*Furst A. 1978. Tumorigenic effect of an organomanganese compound on F344 rats and Swiss albino mice [Brief communication]. *J Natl Cancer Inst* 60:1171-1173.
- *Gaind VS, Vohra K, Chai F. 1992. Determination of tricarbonyl(2-methylcyclopentadienyl) manganese in gasoline and air by gas chromatography with electron-capture detection. *Analyst* 117:161-164.
- Gallez B, Bacic G, Swartz HM. 1996a. Evidence for the dissociation of the hepatobiliary MRI contrast agent MN-DPDP. *Magn Reson Med* 35:14-19.
- Gallez B, Baudelet C, Adline J, et al. 1996b. The uptake of Mn-DPDP by hepatocytes is not mediated by the facilitated transport of pyridoxine. *Magn Reson Imaging* 14(101):1191-1195.
- *Gallez B, Baudelet C, Adline J, et al. 1997. Accumulation of manganese in the brain of mice after intravenous injection of manganese-based contrast agents. *Chem Res Toxicol* 10:360-363.
- *Galloway SM, Armstrong MJ, Reuben C, et al. 1987. Chromo-some aberrations and sister chromatid exchanges in Chinese hamster ovary cells: Evaluations of 108 chemicals. *Environ Mol Mutagen* 1 (Suppl. 10):1-175.
- Gao Y, Leermakers M, Elskens M, et al. 2007. High resolution profiles of thallium, manganese and iron assessed by DET and DGT techniques in riverine sediment pore waters. *Sci Total Environ* 373:526-533.

9. REFERENCES

- +*Garcia SJ, Gellein K, Syversen T, et al. 2006. A manganese-enriched diet alters brain metals and transporters in the developing rat. *Toxicol Sci* 92(2):516-525.
- +*Garcia SJ, Gellein K, Syversen T, et al. 2007. Iron deficient and manganese supplemented diets alter metals and transporters in the developing rat brain. *Toxicol Sci* 95(1):205-217.
- +*Garcia-Aranda JA, Lifshitz F, Wapnir RA. 1984. Intestinal absorption of manganese in experimental malnutrition. *J Pediatr Gastroenterol Nutr* 3:602-607.
- +*Garcia-Aranda JA, Wapnir RA, Lifshitz F. 1983. In vivo intestinal absorption of manganese in the rat. *J Nutr* 113:2601-2607.
- Garner CD, Nachtman JP. 1989a. Manganese catalyzed auto-oxidation of dopamine to 6-hydroxydopamine in vitro. (Erratum on: *Chem Biol Interact* 69:345-351). *Chem Biol Interact* 71(2-3):309.
- *Garner CD, Nachtman JP. 1989b. Manganese catalyzed auto-oxidation of dopamine to 6-hydroxydopamine in vitro. (Erratum in: *Chem Biol Interact* 71(2-3):309). *Chem Biol Interact* 69:345-351.
- *Garrison AW, Cipollone MG, Wolfe NL, et al. 1995. Environmental fate of methylcyclopentadienyl manganese tricarbonyl. *Environ Toxicol Chem* 14(11):1859-1864.
- Garruto RM, Shankar SK, Yanagihara R, et al. 1989. Low-calcium, high-aluminum diet-induced motor neuron pathology in cynomolgus monkeys. *Acta Neuropathol* 78:210-219.
- *Gavin CE, Gunter KK, Gunter TE. 1990. Manganese and calcium efflux kinetics in brain mitochondria. Relevance to manganese toxicity. *Biochem J* 266:329-334.
- +*Gavin CE, Gunter KK, Gunter TE. 1992. Mn²⁺ sequestration by mitochondria and inhibition of oxidative phosphorylation. *Toxicol Appl Pharmacol* 115:1-5.
- *Gavin CE, Gunter KK, Gunter TE. 1999. Manganese and calcium transport in mitochondria: Implications for manganese toxicity. *Neurotoxicology* 20:445-454.
- *Geering HR, Hodgson JF, Sdano C. 1969. Micronutrient cation complexes in soil solution: IV. The chemical state of manganese in soil solution. *Soil Sci Soc Amer Proc* 33:81-85.
- +*Gennart JP, Buchet JP, Roels H, et al. 1992. Fertility of male workers exposed to cadmium, lead, or manganese. *Am J Epidemiol* 135:1208-1219.
- Georgian L, Moraru I, Draghicescu T, et al. 1983. Cytogenetic effects of alachlor and mancozeb. *Mutat Res* 116:341-348.
- Gerber GB, Leonard A, Hantson P. 2002. Carcinogenicity, mutagenicity and teratogenicity of manganese compounds. *Crit Rev Oncol Hematol* 42:25-34.
- +Gerdin B, McCann E, Lundberg C, et al. 1985. Selective tissue accumulation of manganese and its effect on regional blood flow and hemodynamics after intravenous infusion of its chloride salt in the rat. *Int J Tissue React* 7(5):373-380.

9. REFERENCES

Ghio AJ, Bennet WD. 2007. Metal particles are inappropriate for testing a postulate of extrapulmonary transport. *Environ Health Perspect* 115(2):70-71.

+*Gianutsos G, Murray MT. 1982. Alterations in brain dopamine and GABA following inorganic or organic manganese administration. *Neurotoxicology* 3:75-81.

+*Gianutsos G, Morrow GR, Morris JB. 1997. Accumulation of manganese in rat brain following intranasal administration. *Fundam Appl Toxicol* 37:102-105.

+*Gianutsos G, Seltzer MD, Saymeh R, et al. 1985. Brain manganese accumulation following systemic administration of different forms. *Arch Toxicol* 57(4):272-275.

*Gibbons RA, Dixon SN, Hallis K, et al. 1976. Manganese metabolism in cows and goats. *Biochim Biophys Acta* 444:1-10.

+*Gibbs JP, Crump KS, Houck DP, et al. 1999. Focused medical surveillance: A search for subclinical movement disorders in a cohort of U.S. workers exposed to low levels of manganese dust. *Neurotoxicology* 20:299-313.

Gibson RS. 1994. Content and bioavailability of trace elements in vegetarian diets. *Am J Clin Nutr* 59:1223s-1232s.

Gilmore DA Jr, Bronstein AC. 1992. Manganese and magnesium. In: Sullivan JB, Driege GR, eds. Hazardous materials toxicology, clinical principles of environmental health. Baltimore, MD: Williams and Wilkins, 896-902.

*Giwercman 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.

*Glass E. 1955. Untersuchungen über die einwirkung von schwermetallsalzen auf die wurzelspitzenmitose von Vicia faba. *Zeitschrift fuer Botanik* 43:359-403.

*Glass E. 1956. Untersuchungen über die einwirkung von schwermetallsalzen auf die wurzelspitzenmitose von Vicia faba. *Zeitschrift fuer Botanik* 44:1-58.

Goering PL, Fowler BA. 1985. Mechanisms of renal lead-binding protein protection against lead-inhibition of delta-aminolevulinic acid dehydratase. *J Pharmacol Exp Ther* 234:365-371.

*Goering PL, Klaassen CD. 1985. Mechanism of manganese-induced tolerance to cadmium lethality and hepatotoxicity. *Biochem Pharmacol* 34:1371-1379.

*Goldsmith J, Herishanu Y, Abarbanel J, et al. 1990. Clustering of Parkinson's disease points to environmental etiology. *Arch Env Health* 45(2):88-94.

+*Golub MS, Hogrefe CE, Germann SL, et al. 2005. Neurobehavioral evaluation of rhesus monkey infants fed cow's milk formula, soy formula, or soy formula with added manganese. *Neurotoxicol Teratol* 27(4):615-627.

Gonzalez RC, Gonzalez-Chavez MCA. 2006. Metal accumulation in wild plants surrounding mining wastes. *Environ Pollut* 144:84-92.

9. REFERENCES

- Goodson PA, Glerup J, Hodgson DJ, et al. 1991. Syntheses and characterization of binuclear manganese (III, IV) and (IV, IV) complexes with ligands related to N,N'-bis(2-pyridylmethyl)-1,2-ethanediamine. *Inorg Chem* 30:4909-4914.
- Goodson PA, Hodgson DJ, Glerup J, et al. 1992. Syntheses and characterization of binuclear manganese (III, IV) and (IV, IV) complexes with 1,4,7,10-tetraazacyclododecane (cyclen). *Inorg Chim Acta* 197:141-147.
- +Gordon CJ, Fogelson L, Highfill JW. 1990. Hypothermia and hypometabolism: Sensitive indices of whole-body toxicity following exposure to metallic salts in the mouse. *J Toxicol Environ Health* 29:185-200.
- +Gorell JM, Johnson CC, Rybicki BA, et al. 1997. Occupational exposures to metals as risk factors for Parkinson's disease. *Neurology* 48:137-145.
- +*Gorell JM, Johnson CC, Rybicki BA, et al. 1999. Occupational exposure to manganese, copper, lead, iron, mercury, and zinc and the risk of Parkinson's disease. *Neurotoxicology* 20:239-248.
- Gosselin RE, Smith RP, Hodge HC, et al. 1984. Clinical toxicology of commercial products. 5th ed. Baltimore, MD: Williams and Wilkins, II-144-II-145.
- +*Gottschalk LA, Rebello T, Buchsbaum MS, et al. 1991. Abnormalities in hair trace elements as indicators of aberrant behavior. *Comp Psych* 32:229-237.
- *Graedel TE. 1978. Inorganic elements, hydrides, oxides, and carbonates. In: *Chemical compounds in the atmosphere*. New York, NY: Academic Press, 35-41, 44-49.
- *Graham DG. 1984. Catecholamine toxicity: A proposal for the molecular pathogenesis of manganese neurotoxicity and Parkinson's disease. *Neurotoxicology* 5:83-95.
- +*Grant D, Blazak WF, Brown GL. 1997a. The reproductive toxicology of intravenously administered MnDPDP in the rat and rabbit. *Acta Radiol* 38:759-769.
- *Grant D, Refsum H, Rummeny E, et al. 1997b. Editorial on MnDPDP. *Acta Radiol* 38:623-625.
- *Grant D, Zech K, Holtz E. 1994. Biodistribution and in vivo stability of manganese dipyridoxyl diphosphate in relation to imaging efficacy. *Invest Radiol* 29:S249-S250.
- +*Gray LE, Laskey JW. 1980. Multivariate analysis of the effects of manganese on the reproductive physiology and behavior of the male house mouse. *J Toxicol Environ Health* 6:861-867.
- *Greger JL. 1998. Dietary standards for manganese: Overlap between nutritional and toxicological studies. *J Nutr* 128(2 Suppl):368S-371S.
- *Greger JL. 1999. Nutrition versus toxicology of manganese in humans: Evaluation of potential biomarkers. *Neurotoxicology* 20:205-212.
- *Greger JL, Davis CD, Suttie JW, Lyle BJ, et al. 1990. Intake, serum concentrations and urinary excretion of manganese by adult males. *Am J Clin Nutr* 51(3):457-461.

9. REFERENCES

- +*Gruden N, Matausic S. 1989. Some factors influencing cadmium-manganese interaction in adult rats. *Bull Environ Contam Toxicol* 43:101-106.
- Guilarte TR, Chen M. 2007. Manganese inhibits NMDA receptor channel function: Implications to psychiatric and cognitive effects. *Neurotoxicology* 28:1147-1152.
- *Guilarte TR, Burton NC, Verina T, et al. 2008. Increased APLP1 expression and neurodegeneration in the frontal cortex of manganese-exposed non-human primates. *J Neurochem* [Epub ahead of print]:1-12.
- *Guilarte TR, Chen M, McGlothan JL. 2006a. Nigrostriatal dopamine system dysfunction and subtle motor deficits in manganese-exposed non-human primates. *Exp Neurol* 2002:381-390.
- *Guilarte TR, McGlothan JL, Degaonkar M, et al. 2006b. Evidence for cortical dysfunction and widespread manganese accumulation in the nonhuman primate brain following chronic manganese exposure: A ¹H-MRS and MRI study. *Toxicol Sci* 94(2):351-358.
- Gulson B, Mizon K, Taylor A, et al. 2006. Changes in manganese and lead in the environment and young children associated with the introduction of methylcyclopentadienyl manganese tricarbonyl in gasoline—preliminary results. *Environ Res* 100:100-114.
- Gunter KK, Aschner M, Miller LM, et al. 2005. Determining the oxidation states of manganese in PC12 and nerve growth factor-induced PC12 cells. *Free Radic Biol Med* 39:164-181.
- Gunter KK, Aschner A, Miller LM, et al. 2006. Determining the oxidation states of manganese in NT2 cells and cultured astrocytes. *Neurobiol Aging* 27:1816-1826.
- Gunter TE, Miller LM, Gavin CE, et al. 2004. Determination of the oxidation states of manganese in brain, liver, and heart mitochondria. *J Neurochem* 88:266-280.
- Gupta KP, Mehrota NK. 1992. Status of ornithine decarboxylase activity and DNA synthesis in mancozeb-exposed mouse skin. *Carcinogenesis* 13:131-133.
- +*Gupta SK, Murthy RC, Chandra SV. 1980. Neuromelanin in manganese-exposed primates. *Toxicol Lett* 6:17-20.
- Gutierrez AJ, Gonzalez-Weller D, Gonzales T, et al. 2007. Content of trace metals (iron, zinc, manganese, chromium, copper, nickel) in canned variegated scallops (*Chlamys varia*). *Int J Food Sci Nutr* [Epub ahead of print].
- *Guzelian PS, Henry CJ, Olin SS, eds. 1992. *Similarities and differences between children and adults: Implications for risk assessment*. Washington, DC: International Life Sciences Institute Press.
- *Gwiazda R, Lucchini R, Smith D. 2007. Adequacy and consistency of animal studies to evaluate the neurotoxicity of chronic low-level manganese exposure to humans. *J Toxicol Environ Health* 70(7):594-605.
- Gwiazda RH, Lee D, Sheridan J, et al. 2002. Low cumulative manganese exposure affects striatal GABA but not dopamine. *Neurotoxicology* 23:69-76.
- *Haddad CM, Shannon MW, Winchester JF, eds. 1998. In: *Clinical management of poisoning and drug overdose*. 3rd ed. Philadelphia, PA: WB Saunders, 796-797.

9. REFERENCES

- +*Hafeman D, Factor-Litvak P, Cheng Z, et al. 2007. Association between manganese exposure through drinking water and infant mortality in Bangladesh. *Environ Health Perspect* 115:1107-1112.
- +Hakkinen PJ, Haschek WM. 1982. Pulmonary toxicity of methylcyclopentadienyl manganese tricarbonyl: Nonciliated bronchiolar epithelial (Clara) cell necrosis and alveolar damage in the mouse, rat, and hamster. *Toxicol Appl Pharmacol* 65:11-22.
- +*Halatek T, Hermans C, Broeckaert F, et al. 1998. Quantification of Clara cell protein in rat and mouse biological fluids using a sensitive immunoassay. *Eur Respir J* 11:726-733.
- Halatek T, Sinczuk-Walczak H, Rydzynski K. 2008. Early neurotoxic effects of inhalation exposure to aluminum and/or manganese assessed by serum levels of phospholipid-binding Clara cells protein. *J Toxicol Environ Health A* 43(2):118-124.
- Halatek T, Sinczuk-Walczak H, Szymczak M, et al. 2005. Neurological and respiratory symptoms in shipyard welders exposed to manganese. *Int J Occup Med Environ Health* 18(3):265-274.
- Hall ED, Symonds HW, Mallinson CB. 1982. Maximum capacity of the bovine liver to remove manganese from portal plasma and the effect of the route of entry of manganese on its rate of removal. *Res Vet Sci* 33:89-94.
- *Halliwell B. 1984. Manganese ions, oxidation reactions and the superoxide radical. *Neurotoxicology* 5:113-118.
- +*HaMai D, Rinderknecht AL, Guo-Sharman K, et al. 2006. Decreased expression of inflammation-related genes following inhalation exposure to manganese. *Neurotoxicology* 27:395-401.
- *Hambidge KM, Sokol RJ, Fidanza SJ, et al. 1989. Plasma manganese concentrations in infants and children receiving parenteral nutrition. *J Parenter Enteral Nutr* 13(2):168-171.
- Hams GA, Fabri JK. 1988. An analysis for blood manganese used to assess environmental exposure. *Clin Chem* 34:1121-1123.
- Han SG, Kim Y, Kashon ML, et al. 2005. Correlates of oxidative stress and free-radical activity in serum from asymptomatic shipyard welders. *Am J Respir Crit Care Med* 172:1541-1548.
- +*Hanzlik RP, Bhatia P, Stitt R, et al. 1980a. Biotransformation and excretion of methylcyclopentadienyl manganese tricarbonyl in the rat. *Drug Metab Dispos* 8:428-433.
- *Hanzlik RP, Harkness CE, Arnoldi S. 1979. Gas chromatographic determination of methylcyclopentadienyl manganese tricarbonyl in biological tissues and fluids. *J Chromatogr* 171:279-283.
- +*Hanzlik RP, Stitt R, Traiger GJ. 1980b. Toxic effects of methylcyclopentadienyl manganese tricarbonyl (MMT) in rats: Role of metabolism. *Toxicol Appl Pharmacol* 56:353-360.
- Harper ER, St. Leger JA, Westberg JA, et al. 2007. Tissue heavy metal concentrations of stranded California sea lions (*Zalophus californianus*) in Southern California. *Environ Pollut* 147:677-682.

9. REFERENCES

- Harris MK, Ewing WM, Longo W, et al. 2005. Manganese exposures during shielded metal arc welding (SMAW) in an enclosed space. *J Occup Environ Hyg* 2:375-382.
- Hart DA. 1978. Evidence that manganese inhibits an early event during stimulation of lymphocytes by mitogens. *Exp Cell Res* 113:139-150.
- Haschek WM, Hakkinen PJ, Witschi HP, et al. 1982. Nonciliated bronchiolar epithelial (Clara) cell necrosis induced by organometallic carbonyl compounds. *Toxicol Lett* 14:85-92.
- Haug BA, Schoenle PW, Karch BJ, et al. 1989. Morvan's fibrillary chorea. A case with possible manganese poisoning. *Clin Neurol Neurosurg* 91:53-59.
- +*Hauser RA, Zesiewicz TA, Martinez C, et al. 1996. Blood manganese correlates with brain magnetic resonance imaging changes in patients with liver disease. *Can J Neurol Sci* 23:95-98.
- +*Hauser RA, Zesiewicz TA, Rosemurgy AS, et al. 1994. Manganese intoxication and chronic liver failure. *Ann Neurol* 36:871-875.
- *HazDat. 2008. Manganese. 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 1, 2008.
- Hazell AS. 2002. Astrocytes and manganese neurotoxicity. *Neurochem Int* 41:271-277.
- Hazell AS, Desjardins P, Butterworth RF. 1999. Increased expression of glyceraldehyde-3-phosphate dehydrogenase in cultured astrocytes following exposure to manganese. *Neurochem Int* 35:11-17.
- *Hazell AS, Normandin L, Norenberg MD, et al. 2006. Alzheimer type II astrocytic changes following sub-acute exposure to manganese and its prevention by antioxidant treatment. *Neurosci Lett* 396:167-171.
- He SC, Niu Q. 2004. Subclinical neurophysiological effects of manganese in welding workers. *Int J Immunopathol Pharmacol* 17(2):11-16.
- +*He P, Liu D, Zhang G, et al. 1994. [Effects of high-level manganese sewage irrigation on children's neurobehavior.] *Chung Hua Yu Fang I Hsueh Tsa Chih* 28:216-218. (Chinese).
- Headley JV, Massiah W, Laberge D, et al. 1996. Rapid screening for mancozeb in exposure trials by inductively coupled plasma-atomic emission spectrometric determination of manganese. *J AOAC Int* 79:1184-1188.
- *Health Canada. 2008. Human health risk assessment for inhaled manganese. Draft. Health Canada. http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/air/out-ext/_consult/draft_ebauche/manganese_e.pdf. May 07, 2008.
- Heilig E, Molina R, Donaghey T, et al. 2005. Pharmacokinetics of pulmonary manganese absorption: Evidence for increased susceptibility to manganese loading in iron-deficient rats. *Am J Physiol Lung Cell Mol Physiol* 288:L887-L893.
- Helling CS, Dennison DG, Kaufman DD. 1974. Fungicide movement in soils. *Phytopathology* 64:1091-1100.

9. REFERENCES

- *Hellou J, Fancey LL, Payne JF. 1992. Concentrations of twenty-four elements in bluefin tuna, *Thunnus thynnus* from the Northwest Atlantic. *Chemosphere* 24:211-218.
- *Helz GR, Huggett RJ, Hill JM. 1975. Behavior of Mn, Fe, Cu, Zn, Cd and Pb discharged from a wastewater treatment plant into an estuarine environment. *Water Research* 9:631-636.
- *Hemstock GA, Low PF. 1953. Mechanisms responsible for retention of manganese in the colloidal fraction of soil. *Soil Science* 76:331-343.
- Henriksson J, Tjälve H. 2000. Manganese taken up into the CNS via the olfactory pathway in rats affects astrocytes. *Toxicol Sci* 55:392-398.
- *Henriksson J, Tallkvist J, Tjälve H. 1999. Transport of manganese via the olfactory pathway in rats: Dosage dependency of the uptake and subcellular distribution of the metal in the olfactory epithelium and the brain. *Toxicol Appl Pharmacol* 156:119-128.
- Herrero Hernandez E, Discalzi G, Dassi P, et al. 2003. Manganese intoxication: The cause of an inexplicable epileptic syndrome in a 3 year old child. *Neurotoxicology* 24:633-639.
- Herrero Hernandez EH, Discalzi G, Valentini C, et al. 2006. Follow-up of patients affected by manganese-induced Parkinsonism after treatment with CaNa₂EDTA. *Neurotoxicology* 27:333-339.
- Higashi Y, Asanuma M, Miyazaki I, et al. 2004. Parkin attenuates manganese-induced dopaminergic cell death. *J Neurochem* 89:1490-1497.
- Higo A, Ohtake N, Saruwatari K, et al. 1996. Photoallergic contact dermatitis from mancozeb, an agricultural fungicide. *Contact Dermatitis* 35:183.
- +*Hinderer RK. 1979. Toxicity studies of methylcyclopentadienyl manganese tricarbonyl (MMT). *Am Ind Hyg Assoc J* 40:164-167.
- Hirata Y, Meguro T, Kiuchi K. 2006. Differential effect of nerve growth factor on dopaminergic neurotoxin-induced apoptosis. *J Neurochem* 99:416-425.
- Hirata Y, Suzuno H, Tsuruta T, et al. 2008. The role of dopamine transporter in selective toxicity of manganese and rotenone. *Toxicology* 244:249-256.
- *Hobbesland A, Kjuus H, Thelle DS. 1997a. Mortality from nonmalignant respiratory diseases among male workers in Norwegian ferroalloy plants. *Scand J Work Environ Health* 23:342-350.
- +*Hobbesland A, Kjuus H, Thelle DS. 1997b. Mortality from cardiovascular diseases and sudden death in ferroalloy plants. *Scand J Work Environ Health* 23:334-341.
- *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.
- +*Holbrook DJ Jr, Washington ME, Leake HB, et al. 1975. Studies on the evaluation of the toxicity of various salts of lead, manganese, platinum, and palladium. *Environ Health Perspect* 10:95-101.

9. REFERENCES

- +*Holzgraefe M, Poser W, Kijewski H, et al. 1986. Chronic enteral poisoning caused by potassium permanganate: A case report. *J Toxicol Clin Toxicol* 24:235-244.
- +*Hong JS, Hung CR, Seth PK, et al. 1984. Effect of manganese treatment on the levels of neurotransmitters, hormones, and neuropeptides: Modulation by stress. *Environ Res* 34:242-249.
- Hope S, Daniel K, Gleason KL, et al. 2006. Influence of tea drinking on manganese intake, manganese status and leucocyte expression of MnSOD and cytosolic aminopeptidase P. *Eur J Clin Nutr* 60:1-8.
- *HSDB. 2008. Manganese. Hazardous Substances Data Bank. National Library of Medicine. <http://toxnet.nlm.nih.gov>. April 17, 2008.
- Hsieh C, Liang J, Peng SS, et al. 2007. Seizure associated with total parenteral nutrition-related hypermanganesemia. *Pediatr Neurol* 36:181-183.
- +Hua MS, Huang CC. 1991. Chronic occupational exposure to manganese and neurobehavioral function. *J Clin Exp Neuropsychol* 13:495-507.
- +*Huang C, Chu N, Lu C, et al. 1989. Chronic manganese intoxication. *Arch Neurol* 46:1104-1106.
- *Huang C, Chu N, Lu C, et al. 1998. Long-term progression in chronic manganism. Ten years of follow-up. *Neurology* 50:698-700.
- Huang C, Chu N, Lu C, et al. 2007. The natural history of neurological manganism over 18 years. *Parkinsonism Relat Disord* 13:143-145.
- Huang C, Weng Y, Lu C, et al. 2003. Dopamine transporter binding in chronic manganese intoxication. *J Neurol* 250:1335-1339.
- Huang Y, Jin B, Zhong Z, et al. 2004. Trace elements (Mn, Cr, Pb, Se, Zn, Cd and Hg) in emissions from a pulverized coal boiler. *86:23-32*.
- Hudnell HK. 1999. Effects from environmental Mn exposures: A review of the evidence from non-occupational exposure studies. *Neurotoxicology* 20:379-398.
- *Hurley LS, Keen CL. 1987. Manganese. In: Mertz W, ed. *Trace elements in human and animal nutrition*, 5th Ed., Vol. 1. San Diego, CA: Academic Press, Inc., 185-223.
- +Hurley LS, Keen CL, Baly DL. 1984. Manganese deficiency and toxicity: Effects on carbohydrate metabolism in the rat. *Neurotoxicology* 5:97-104.
- Hurley LS, Woolley DE, Timiras PS. 1961. Threshold and pattern of electro shock seizures in ataxic manganese-deficient rats. *Proc Soc Exp Biol Med* 106:343-346.
- +*Hussain S, Lipe GW, Slikker W, et al. 1997. The effects of chronic exposure of manganese on antioxidant enzymes in different regions of rat brain. *Neurosci Res Commun* 21:135-144.
- +*Hustvedt SO, Grant D, Southon TE, et al. 1997. Plasma pharmacokinetics, tissue distribution, and excretion of MnDPDP in the rat and dog after intravenous administration. *Acta Radiologica* 38:690-699.

9. REFERENCES

Hylin JW. 1973. Oxidative decomposition of ethylene-bis-dithiocarbamates. Bull Environ Contam Toxicol 10:227-233.

Hylin JW, Kawano Y, Chang W. 1978. An ultraviolet absorption method for the analysis of maneb formulations. Bull Environ Contam Toxicol 20:840-845.

+*Hysell DK, Moore W, Stara JF, et al. 1974. Oral toxicity of methylcyclopentadienyl manganese tricarbonyl (MMT) in rats. Environ Res 7:158-168.

IARC. 1982. IARC monographs on the evaluation of the carcinogenic risk of chemicals to humans: Chemicals, industrial processes and industries associated with cancer in humans. Vol. 1 to 29, Supplement 4. International Agency for Research on Cancer, Lyon, France.

IARC. 1986. IARC monographs on the evaluation of the carcinogenic risk of chemicals to humans. Tobacco smoking. Vol. 38. Lyon, France: International Agency for Research on Cancer.:114-116.

*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.

*Ibim SE, Trotman J, Musey PI, et al. 1992. Depletion of essential elements by calcium disodium EDTA treatment in the dog. Toxicology 73:229-237.

*ICCT. 2004. Status report concerning the use of MMT in gasoline. International Council on Clean Transportation. http://www.theicct.org/documents/MMT_ICCT_2004.pdf. May 07, 2008.

*Ihara K, Hijii T, Kuromaru R, et al. 1999. High-intensity basal ganglia lesions on T1-weighted images in two toddlers with elevated blood manganese with portosystemic shunts. Neuroradiology 41(3):195-198.

Ikeda M, Ohisaji H. 1972. A comparative study of the excretion of Fujiwara reaction-positive substances in urine of humans and rodents given trichloro- or tetrachloro-dreivatives of ethane and ethylene. Br J Ind Med 29:99-104.

Ikeda S, Yamaguchi Y, Sera Y, et al. 2000. Manganese deposition in the globus pallidus in patients with biliary atresia. Transplantation. 69(11):2339-2343.

Iliev D, Elsner P. 1997. Allergic contact dermatitis from the fungicide Rondo-M® and the insecticide Alfacron®. Contact Dermatitis 36:51.

+Imam Z, Chandra SV. 1975. Histochemical alterations in rabbit testis produced by manganese chloride. Toxicol Appl Pharmacol 32:534-544.

*Ingersoll RT, Montgomery EB, Aposhian HV. 1995. Central nervous system toxicity of manganese. I. Inhibition of spontaneous motor activity in rats after intrathecal administration of manganese chloride. Fundam Appl Toxicol 27:106-113.

*Ingersoll RT, Montgomery EB, Aposhian HV. 1999. Central nervous system toxicity of manganese II: Cocaine or reserpine inhibit manganese concentration in the rat brain. Neurotoxicology 20:467-476.

9. REFERENCES

- +*Iregren A. 1990. Psychological test performance in foundry workers exposed to low levels of manganese. *Neurotoxicol Teratol* 12:673-675.
- *Iregren A. 1994. Using psychological tests for the early detection of neurotoxic effects of low level manganese exposure. *Neurotoxicology* 15(3):671-677.
- *Iregren A. 1999. Manganese neurotoxicity in industrial exposures: Proof of effects, critical exposure level, and sensitive tests. *Neurotoxicology* 20:315-324.
- *IRIS. 1993. Integrated Risk Information System. U.S. Environmental Protection Agency, Washington, DC.
- *IRIS. 2008. Manganese. Integrated Risk Information System. Washington, DC: U.S. Environmental Protection Agency. <http://www.epa.gov/iris/subst/index.html>. April 24, 2008.
- IRPTC. 1989. International Register of Potentially Toxic Chemicals. United Nations Environment Programme, Geneva, Switzerland. September 1989.
- Isaac AO, Kawikova I, Bothwell ALM, et al. 2006. Manganese treatment modulates the expression of peroxisome proliferator-activated receptors in astrocytoma and neuroblastoma cells. *Neurochem Res* 31:1305-1316.
- +*Ishizuka H, Nishida M, Kawada J. 1991. Changes in stainability observed by light microscopy in the brains of ataxial mice subjected to three generations of manganese administration. *Biochem Int* 25:677-687.
- Israeli R, Sculsky M, Tiberin P. 1983a. Acute central nervous system changes due to intoxication by Manzidan (a combined dithiocarbamate of maneb and zineb). *Arch Toxicol Suppl* 6:238-243.
- Israeli R, Sculsky M, Tiberin P. 1983b. Acute intoxication due to exposure to maneb and zineb: A case with behavioral and central nervous system changes. *Scand J Work Environ Health* 9:47-51.
- *Ito K, Yamamoto K, Kawanishi S. 1992. Manganese-mediated oxidative damage of cellular and isolated DNA by isoniazid and related hydrazines: Non-Fenton-type hydroxyl radical formation. *Biochemistry* 31(46):11606-11613.
- Ito Y, Oh-hashi K, Kiuchi K, et al. 2006. p44/42 MAP kinase and c-Jun N-terminal kinase contribute to the up-regulation of caspase-3 in manganese-induced apoptosis in PC12 cells. *Brain Res* 1099:1-7.
- +*Iwami O, Watanabe T, Moon CS, et al. 1994. Motor neuron disease on the Kii Peninsula of Japan: Excess manganese intake from food coupled with low magnesium in drinking water as a risk factor. *Sci Total Environ* 149:121-135.
- Iyengar GV. 1987. Reference values for the concentrations of As, Cd, Co, Cr, Cu, Fe, I, Hg, Mn, Mo, Pb, Se, and Zn in selected human tissues and body fluids. *Biol Trace Elem Res* 12:263-295.
- Jablonická A, Polakova H, Karellova J, et al. 1989. Analysis of chromosome aberrations and sister-chromatid exchanges in peripheral blood lymphocytes of workers with occupational exposure to the mancozeb-containing fungicide Novozir Mn80. *Mutat Res* 224(2):143-146.

9. REFERENCES

- Janaki-Raman D, Jonathan MP, Srinivasalu S, et al. 2007. Trace metal enrichments in core sediments in Muthupet mangroves, SE coast of India: Application of acid leachable technique. Environ Pollut 145:245-257.
- Jankovic J. 2005. Searching for a relationship between manganese and welding and Parkinson's disease. Neurology 64:2021-2028.
- +*Jarvinen R, Ahlström A. 1975. Effect of the dietary manganese level on tissue manganese, iron, copper and zinc concentrations in female rats and their fetuses. Med Biol 53:93-99.
- +*Jarvisalo J, Olkinuora M, Kivilunen M, et al. 1992. Urinary and blood manganese in occupationally nonexposed populations and in manual metal arc welders of mild steel. Int Arch Occup Environ Health 63:495-501.
- *Jaudon P, Massiani C, Galea J, et al. 1989. Groundwater pollution by manganese. Manganese speciation: Application to the selection and discussion of an in situ groundwater treatment. Sci Total Environ 84:169-183.
- +*Jiang Y, Lu J, Mai H, et al. 1996a. [Effects of manganese exposure on ECG and blood pressure.] Ind Health Occup Dis 22:341-343. (Chinese).
- +*Jiang Y, Lu J, Xie P, et al. 1996b. [Effects of manganese on the sexual function and reproductive outcome of male exposed workers]. Chi J Ind Hyg Occup Dis 14:271-273. (Chinese).
- *Jiang Y, Mo X, Du F, et al. 2006. Effective treatment of manganese-induced occupational Parkinsonism with p-aminosalicylic acid: A case of 17-year follow-up study. J Occup Environ Med 48:644-649.
- *Jiang Y, Zheng W, Long L, et al. 2007. Brain magnetic resonance imaging and manganese concentrations in red blood cells of smelting workers: Search for biomarkers of manganese exposure. Neurotoxicology 28:126-135.
- +*Joardar M, Sharma A. 1990. Comparison of clastogenicity of inorganic manganese administered in cationic and anionic forms in vivo. Mutat Res 240:159-163.
- *Johanson CE. 1980. Permeability and vascularity of the developing brain: Cerebellum vs cerebral cortex. Brain Res 190(1):3-16.
- Johnson CA. 1976. The determination of some toxic metals in human liver as a guide to normal levels in New Zealand. Part I. Determination of Bi, Cd, Cr, Co, Cu, Pb, Mn, Ni, Ag, Tl and Zn. Anal Chim Acta 81:69-74.
- +*Johnson PE, Korynta ED. 1992. Effects of copper, iron, and ascorbic acid on manganese availability to rats. Proc Soc Exp Biol Med 199:470-480.
- +*Johnson PE, Lykken GI, Korynta ED. 1991. Absorption and biological half-life in humans of intrinsic and extrinsic ⁵⁴Mn tracers from foods of plant origin. J Nutr 121(5):711-717.
- *Johnston CG, Kipphut GW. 1988. Microbially mediated Mn(II) oxidation in an oligotrophic arctic lake. Appl Environ Microbiol 54:1440-1445.

9. REFERENCES

- Jordan LW, Neal RA. 1979. Examination of the in vivo metabolism of maneb and zineb to ethylenethiourea (ETU) in mice. *Bull Environ Contam Toxicol* 22:271-277.
- *Josephs KA, Ahlskog Je, Klos KJ, et al. 2005. Neurologic manifestations in welders with pallidal MRI T1 hyperintensity. *Neurology* 64:2033-2039.
- *Judde JG, Breillout F, Clemenceau C, et al. 1987. Inhibition of rat natural killer cell function by carcinogenic nickel compounds: Preventive action of manganese. *J Natl Cancer Inst* 78:1185-1190.
- *Kabata-Pendias A, Pendias H. 1984. Trace elements in soils and plants. Boca Raton, FL: CRC Press, Inc.
- Kackar R, Srivastava MK, Raizada RB. 1997a. Induction of gonadal toxicity to male rats after chronic exposure to mancozeb. *Indust Health* 35:104-111.
- Kackar R, Srivastava MK, Raizada RB. 1997b. Studies on the rat thyroid after oral administration of mancozeb: Morphological and biochemical evaluations. *J Appl Toxicol* 17:369-375.
- *Kafritsa Y, Fell J, Long S, et al. 1998. Long term outcome of brain manganese deposition in patients on home parenteral nutrition. *Arch Dis Child* 79:263-265.
- +*Kagamimori S, Makino T, Hiramaru Y, et al. 1973. [Studies of effects on the respiratory organs of air pollution through dust consisting mainly of manganese.] *Nippon Koshu Eisei Zasshi* [Japanese Journal of Public Health] 20:413-421. (Japanese).
- *Kalea AZ, Lamari FN, Theocharis AD, et al. 2006. Dietary manganese affects the concentration, composition and sulfation pattern of heparan sulfate glycosaminoglycans in Sprague-Dawley rat aorta. *Biometals* 19(5):535-546.
- Kamata N, Oshitani N, Oiso R, et al. 2003. Crohn's disease with Parkinsonism due to long-term total parenteral nutrition. *Dig Dis Sci* 48(5):992-994.
- *Kanematsu N, Hara M, Kada T. 1980. Rec assay and mutagenicity studies on metal compounds. *Mutat Res* 77:109-116.
- Kannan K, Perrotta E, Thomas NJ. 2006. Association between perfluorinated compounds and pathological conditions in southern sea otters. *Environ Sci Technol* 40:4943-4948.
- Kara K, Gupta AK, Kumar A, et al. 2006. Characterizaton and identification of the sources of chromium, zinc, lead, cadmium, nickel, manganese and iron in PM10 particulates at the two sites of Kolkata, India. *Environ Monit Assess* 120:347-360.
- +*Karlsson JOG, Mortensen E, Pedersen HK, et al. 1997. Cardiovascular effects of MnDPDP and MnCl₂ in dogs with acute ischaemic heart failure. *Acta Radiologica* 38:750-758.
- +Kato M. 1963. Distribution and excretion of radiomanganese administered to the mouse. *Q J Exp Physiol* 48:355-369.
- +*Katsuragi T, Takahashi T, Shibuya K, et al. 1996. [A Parkinsonism patient exhibiting high-signal intensity in the globus pallidus on T1-weighted MRI of the head: The correlation with manganese poisoning.] *Clin Neurol* 36:780-782. (Japanese).

9. REFERENCES

- +*Kawamura R, Ikuta H, Fukuzumi S, et al. 1941. Intoxication by manganese in well water. *Kitasato Arch Exp Med* 18:145-171.
- Kawano J, Ney DM, Keen CL, et al. 1987. Altered high density lipoprotein composition in manganese-deficient Sprague-Dawley and Wistar rats. *J Nutr* 117:902-906.
- Keen CL, Leach RM. 1988. Manganese. In: Seiler HG, Sigel H, eds. *Handbook on toxicity of inorganic compounds*. New York, NY: Marcel Dekker, Inc.,
- *Keen CL, Zidenberg-Cher S. 1990. Manganese. In: Brown M, ed. *Present knowledge in nutrition*, sixth edition. Washington, DC: International Life Sciences Institute Nutrition Foundation, 279-286.
- Keen CL, Zidenberg-Cherr S. 1994. Manganese toxicity in humans and experimental animals. In: Klimis-Tavantzis DL, ed. *Manganese in health and disease*. Boca Raton, LA: CRC Press, 194-205.
- +*Keen CL, Bell JG, Lönnerdal B. 1986. The effect of age on manganese uptake and retention from milk and infant formulas in rats. *J Nutr* 116:395-402.
- Keen CL, Ensunsa JL, Watson MH, et al. 1999. Nutritional aspects of manganese from experimental studies. *Neurotoxicology* 20:213-223.
- Keen CL, Tamura T, Lönnerdal B, et al. 1985. Changes in hepatic superoxide dismutase activity in alcoholic monkeys. *Am J Clin Nutr* 41:929-932.
- Keller J, Owens CT, Lai JCK, et al. 2005. The effects of 17 β -estradiol and ethanol on zinc- or manganese-induced toxicity in SK-N-SH cells. *Neurochem Int* 46:293-303.
- Kempton S, Sterritt RM, Lester JN. 1987. Heavy metal removal in primary sedimentation. I. The influence of metal solubility. *Sci Total Environ* 63:231-246.
- Kenangil G, Ertan S, Sayilir I, et al. 2006. Progressive motor syndrome in a welder with pallidal T1 hyperintensity on MRI: A two-year follow-up. *Mov Disord* 21(12):2197-2262.
- *Kent C. 1998. *Basics of toxicology*. New York: John Wiley and Sons, 90.
- Keppel GE. 1971. Collaborative study of the determination of the dithiocarbamate residues by a modified carbon disulfide evolution method. *J Assoc Off Anal Chem* 54(3):528-532.
- +Khan KN, Andress JM, Smith PF. 1997. Toxicity of subacute intravenous manganese chloride administration in beagle dogs. *Toxicol Pathol* 25:344-350.
- Khan PK, Sinha SP. 1996. Ameliorating effect of vitamin C on murine sperm toxicity induced by three pesticides (endosulfan, phosphamidon and macozeb). *Mutagenesis* 11(1):33-36.
- Kieburtz K, Kurlan R. 2005. Welding and Parkinson disease (Comment on: *Neurology* 2005; 64:230-235, 2021-2028 & 2033-2039). *Neurology* 64:2001-2003.
- +*Kihira T, Mukoyama M, Ando K, et al. 1990. Determination of manganese concentrations in the spinal cords from amyotrophic lateral sclerosis patients by inductively coupled plasma emission spectroscopy. *J Neurol Sci* 98:251-258.

9. REFERENCES

- +*Kilburn CJ. 1987. Manganese, malformations and motor disorders: Findings in a manganese-exposed population. *Neurotoxicology* 8:421-429.
- Kiloh LG, Lethlean AK, Morgan G, et al. 1980. An endemic neurological disorder in tribal Australian aborigines. *J Neurol Neurosurg Psychiatr* 43:661-668.
- Kim EA, Cheong H, Choi DS, et al. 2007a. Effect of occupational manganese exposure on the central nervous system of welders: ¹H magnetic resonance spectroscopy and MRI findings. *Neurotoxicology* 28:276-283.
- Kim EA, Cheong H, Joo K, et al. 2007b. Effect of manganese exposure on the neuroendocrine system in welders. *Neurotoxicology* 28:263-269.
- *Kim Y, Kim JW, Ito K, et al. 1999. Idiopathic Parkinsonism with superimposed manganese exposure: Utility of positron emission tomography. *Neurotoxicology* 20:249-252.
- Kimura T, Kuroki K, Doi K. 1998. Dermatotoxicity of agricultural chemicals in the dorsal skin of hairless dogs. *Toxicol Pathol* 26:442-447.
- Kitazawa M, Anantharam V, Yang Y, et al. 2005. Activation of protein kinase Cd by proteolytic cleavage contributes to manganese-induced apoptosis in dopaminergic cells: Protective role of Bcl-2. *Biochem Pharmacol* 69:133-146.
- Kitazawa M, Wagner JR, Kirby ML, et al. 2002. Oxidative stress and mitochondrial-mediated apoptosis in dopaminergic cells exposed to methylcyclopentadienyl manganese tricarbonyl. *J Pharmacol Exp Ther* 302(1):26-35.
- +*Klaassen CD. 1974. Biliary excretion of manganese in rats, rabbits, and dogs. *Toxicol Appl Pharmacol* 29:458-468.
- Klaassen CD, Amdur MO, Doull J, eds. 1986. Casarett and Doull's toxicology: The basic science of poisons. New York, NY: Macmillian Publishing Company, 348, 350, 381, 614.
- Kleibl K, Ráčková M. 1980. Cutaneous allergic reactions to dithiocarbamates. *Contact Dermatitis* 6:348-349.
- *Kleinman MT, Pasternack BS, Eisenbud M, et al. 1980. Identifying and estimating the relative importance of airborne particulates. *Environ Sci Technol* 14:62-65.
- *Klos KJ, Ahlshog E, Josepshs KA, et al. 2005. Neurologic spectrum of chronic liver failure and basal ganglia T1 hyperintensity on magnetic resonance imaging. *Arch Neurol* 62:1385-1390.
- *Klos KJ, Chandler M, Kumar N, et al. 2006. Neuropsychological profiles of manganese neurotoxicity. *Eur J Neurol* 13(10):1139-1141.
- *Kneip TJ, Crable JV, eds. 1988a. Metals in blood or tissue - method 118. In: Methods for biological monitoring. Washington, DC: American Public Health Association, 221-228.
- Kneip TJ, Crable JV, eds. 1988b. Metals in urine—method 119. In: Methods for biological monitoring. Washington, DC: American Public Health Association, 229-235.

9. REFERENCES

- +Knudsen E, Sandstrom B, Andersen O. 1995. Zinc and manganese bioavailability from human milk and infant formula used for very low birthweight infants, evaluated in a rat pup model. *Biol Trace Elem Res* 49:53-65.
- Kobayashi K, Kuroda J, Shibata N, et al. 2007. Induction of metallothionein by manganese is completely dependent on interleukin-6 production. *J Pharmacol Exp Ther* 320(2):721-727.
- Koch P. 1996. Occupational allergic contact dermatitis and airborne contact dermatitis from 5 fungicides in a vineyard worker: Cross-reactions between fungicides of the dithiocarbamate group? *Contact Dermatitis* 34:324-329.
- Koizumi A, Shiojima S, Omiya M, et al. 1979. Acute renal failure and maneb (manganese ethylenebis[dithiocarbamate]) exposure. *JAMA* 242:2583-2585.
- Koller WC, Lyons KE. 2004. Effect of levodopa treatment for Parkinsonism in welders: A double-blind study. *Neurology* 63:1541-1544.
- Koller WC, Lyons KE, Truly W. 2004. Effect of levodopa treatment Parkinsonism in welders. *Neurology* 62:730-733.
- Komaki H, Maisawa S-i, Sugai K, et al. 1999. Tremor and seizures associated with chronic manganese intoxication. *Brain Dev* 21:122-124.
- *Komori M, Nishio K, Kitada M, et al. 1990. Fetus-specific expression of a form of cytochrome P-450 in human livers. *Biochemistry* 29(18):4430-4433.
- Komulainen H, Savolainen K. 1985. Effect of dithiocarbamate fungicides and thiurams on 3H-haloperidol binding in rat brain. *Arch Toxicol Suppl* 8:77-79.
- +*Komura J, Sakamoto M. 1991. Short-term oral administration of several manganese compounds in mice: Physiological and behavioral alterations caused by different forms of manganese. *Bull Environ Contam Toxicol* 46:921-928.
- +*Komura J, Sakamoto M. 1992a. Disposition, behavior, and toxicity of methylcyclopentadienyl manganese tricarbonyl in the mouse. *Arch Environ Contam Toxicol* 23:473-475.
- +*Komura J, Sakamoto M. 1992b. Effects of manganese forms on biogenic amines in the brain and behavioral alterations in the mouse: Long-term oral administration of several manganese compounds. *Environ Res* 57:34-44.
- +*Komura J, Sakamoto M. 1994. Chronic oral administration of methylcyclopentadienyl manganese tricarbonyl altered brain biogenic amines in the mouse: Comparison with inorganic manganese. *Toxicol Lett* 73:65-73.
- +*Kondakis XG, Makris N, Leotsinidis M, et al. 1989. Possible health effects of high manganese concentration in drinking water. *Arch Environ Health* 44:175-178.
- Kono Y, Fridovich I. 1983. Isolation and characterization of the pseudocatalase of *Lactobacillus plantarum*: A new manganese-containing enzyme. *J Biol Chem* 258:6015-6019.

9. REFERENCES

- +*Kontur PJ, Fechter LD. 1985. Brain manganese, catecholamine turnover, and the development of startle in rats prenatally exposed to manganese. *Teratology* 32:1-11.
- +*Kontur PJ, Fechter LD. 1988. Brain regional manganese levels and monoamine metabolism in manganese-treated neonatal rats. *Neurotoxicol Teratol* 10:295-303.
- Kool HJ, van Kreijl CF, Zoeteman BC. 1982. Toxicology assessment of organic compounds in drinking water. *CRC Crit Rev Environ Control* 12:307, 347.
- *Kopp JF, Kroner RC. 1967. Trace metals in waters of the United States. A five year summary of trace metals in rivers and lakes of the United States (Oct. 1, 1962 - Sept. 30, 1967). Cincinnati, OH: U.S. Department of the Interior, Federal Water Pollution Control Administration. NTIS No. PB-215680.
- +*Kostial K, Blanusa M, Maljkovic T, et al. 1989. Effect of a metal mixture in diet on the toxicokinetics and toxicity of cadmium, mercury and manganese in rats. *Toxicol Ind Health* 5:685-698.
- Kostial K, Blanusa M, Piasek M. 2005. Regulation of manganese accumulation in perinatally exposed rat pups. *J Appl Toxicol* 25:89-93.
- +*Kostial K, Kello D, Jugo S, et al. 1978. Influence of age on metal metabolism and toxicity. *Environ Health Perspect* 25:81-86.
- *Krishnan K, Andersen ME. 1994. Physiologically based pharmacokinetic modeling in toxicology. In: Hayes AW, ed. *Principles and methods of toxicology*. 3rd ed. New York, NY: Raven Press, Ltd., 149-188.
- *Krishnan K, Andersen ME, Clewell HJ, et al. 1994. Physiologically based pharmacokinetic modeling of chemical mixtures. In: Yang RSH, ed. *Toxicology of chemical mixtures: Case studies, mechanisms, and novel approaches*. San Diego, CA: Academic Press, 399-437.
- Krishnan KP, Fernandes SO, Chandan GS, et al. 2007. Bacterial contribution to mitigation of iron and manganese in mangrove sediments. *Mar Pollut Bull* 54:1427-1433.
- +*Kristensson K, Eriksson H, Lundh B, et al. 1986. Effects of manganese chloride on the rat developing nervous system. *Acta Pharmacol Toxicol* 59:345-348.
- Kuhn NJ, Ward S, Piponski M, et al. 1995. Purification of human hepatic arginase and its manganese (II)-dependent and pH-dependent interconversion between active and inactive forms: A possible pH sensing function of the enzyme on the ornithine cycle. *Arch Biochem Biophys* 320:24-34.
- Kuo Y, Herligy AH, So P, et al. 2005. In vivo measurements of T1 relaxation times in mouse brain associated with different modes of systemic administration of manganese chloride. *J Magn Reson Imaging* 21:334-339.
- Kurttio P, Savolainen K. 1990. Ethylenethiourea in air and in urine as an indicator of exposure to ethylenebisdithiocarbamate fungicides. *Scand J Work Environ Health* 16:203-207.
- Kurttio P, Vartiainen T, Savolainen K. 1990. Environmental and biological monitoring of exposure to ethylenebisdithiocarbamate fungicides and ethylenethiourea. *Br J Ind Med* 47:203-206.

9. REFERENCES

- Kwik-Uribe C, Smith DR. 2006. Temporal responses in the disruption of iron regulation by manganese. *J Neurosci Res* 83:1601-1610.
- Lai JC, Leung TK, Lim L. 1982. The ontogeny of acetylcholinesterase activities in rat brain regions and the effect of chronic treatment with manganese chloride. *J Neurochem* 39:1767-1769.
- +*Lai JC, Leung TK, Lim L. 1984. Differences in the neurotoxic effects of manganese during development and aging: Some observations on brain regional neurotransmitter and non-neurotransmitter metabolism in a developmental rat model of chronic manganese
- +*Lai JC, Leung TK, Lim L, et al. 1991. Effects of chronic manganese treatment on rat brain regional sodium-potassium-activated and magnesium-activated adenosine triphosphatase activities during development. *Metab Brain Dis* 6:165-174.
- +Lai JC, Minski MJ, Chan AW, et al. 1981. Brain regional manganese distribution after chronic manganese treatment. *Biochem Soc Trans* 9:228.
- *Lai JCK, Minski MH, Chan AWK, et al. 1999. Manganese mineral interactions in brain. *Neurotoxicology* 20:433-444.
- Laisi A, Tuominen R, Mannisto P, et al. 1985. The effect of maneb, zineb, and ethylenethiourea on the humoral activity of the pituitary-thyroid axis in rat. *Arch Toxicol Suppl* 8:253-258.
- +*Laitung JK, Mercer DM. 1983. Manganese absorption through a burn. *Burns Incl Therm Inj* 10:145-146.
- Langston JW, Irwin I, Ricaurte GA. 1987. Neurotoxins, parkinsonism and Parkinson's disease. *Pharmacol Ther* 32:19-49.
- *Larsen LE, Grant D. 1997. General toxicology of MnDPDP. *Acta Radiol* 38:770-779.
- Larsson KS, Arnander C, Cekanova E, et al. 1976. Studies of teratogenic effects of the dithiocarbamates maneb, mancozeb, and propineb. *Teratology* 14:171-183.
- +*Laskey JW, Rehnberg GL, Hein JF, et al. 1985. Assessment of the male reproductive system in the pre-weanling rat following Mn₃O₄ exposure. *J Toxicol Environ Health* 15:339-350.
- +*Laskey JW, Rehnberg GL, Hein JF. 1982. Effects of chronic manganese (Mn₃O₄) exposure on selected reproductive parameters in rats. *J Toxicol Environ Health* 9:677-687.
- Latchoumycandane C, Anantharam V, Kitazawa M, et al. 2005. Protein kinase C is a key downstream mediator of manganese-induced apoptosis in dopaminergic neuronal cells. *J Pharmacol Exp Ther* 313(1):46-55.
- +*Lauwerys R, Roels H, Genet P, et al. 1985. Fertility of male workers exposed to mercury vapor or to manganese dust: A questionnaire study. *Am J Ind Med* 7:171-176.
- *Lauwerys RR, Bernard A, Roels H, et al. 1992. Health risk assessment of long term exposure to chemicals: Application to cadmium and manganese. *Arch Toxicol Suppl* 15:97-102.

9. REFERENCES

- Lawrence DA. 1981. Heavy metal modulation of lymphocyte activities. I. In vitro effects of heavy metals on primary humoral immune responses. *Toxicol Appl Pharmacol* 57:439-451.
- Leach RM. 1984. Manganese in enteral and parenteral nutrition. *Bull NY Acad Med* 60:172-176.
- *Leach RM, Lilburn MS. 1978. Manganese metabolism and its function. *World Rev Nutr Diet* 32:123-134.
- *Leavens TL, Rao D, Andersen ME, et al. 2007. Evaluating transport of manganese from olfactory mucosa to straitum by pharmacokinetic modeling. *Toxicol Sci* 97(2):265-278
- Lee B, Hiney JK, Pine MD, et al. 2007. Manganese stimulates luteinizing hormone releasing hormone secretion in prepubertal female rats: Hypothalamic site and mechanism of action. *J Physiol* 578(Pt 3):765-772.
- *Lee B, Pine M, Johnson L, et al. 2006. Manganese acts centrally to activate reproductive hormone secretion and pubertal development in male rats. *Reproductive Toxicology* 22:580-585.
- *Leeder JS, Kearns GL. 1997. Pharmacogenetics in pediatrics: Implications for practice. *Pediatr Clin North Am* 44(1):55-77.
- Lees-Haley PR, Greiffenstein MF, Larabee GJ, et al. 2004. Methodological problems in the neuropsychological assessment of effects of exposure to welding fumes and manganese. *Clin Neuropsychol* 18:449-464.
- *Leikin JB, Paloucek JB. 2002. Leikin and Paloucek's poisoning and toxicology handbook. Hudson, OH: Lexi-Comp, Inc., 773-774.
- *Leung HW. 1993. Physiologically-based pharmacokinetic modelling. In: Ballentyne B, Marrs T, Turner P, eds. General and applied toxicology. Vol. 1. New York, NY: Stockton Press, 153-164.
- +Leung TK, Lai JC, Lim L. 1981. The regional distribution of monoamine oxidase activities towards different substrates: Effects in rat brain of chronic administration of manganese chloride and of ageing. *J Neurochem* 36(6):2037-2043.
- +Leung TK, Lai JC, Lim L. 1982. The effects of chronic manganese feeding on the activity of monamine oxidase in various organs of the developing rat. *Comp Biochem Physiol* 71C:223-228.
- *Lewis RJ. 2000. Manganese. Sax's dangerous properties of industrial materials. 10th ed. New York, NY: John Wiley & Sons, Inc., 2275-2276, 2278-2780.
- *Lewis RJ, ed. 2001. Hawley's condensed chemical dictionary. 14th ed. New York, NY: John Wiley & Sons, Inc., 694-698.
- *Lewis J, Bench G, Myers O, et al. 2005. Trigeminal uptake and clearance of inhaled manganese chloride in rats and mice. *Neurotoxicology* 26:113-123.
- +*Li GJ, Choi B, Wang X, et al. 2006. Molecular mechanism of distorted iron regulation in the blood-CSF barrier and regional blood-brain barrier following in vivo subchronic manganese exposure. *Neurotoxicology* 27:737-744.

9. REFERENCES

- *Li GJ, Zhang LL, Lu L, et al. 2004. Occupational exposure to welding fume among welders: Alterations of manganese, iron, zinc, copper, and lead in body fluids and the oxidative stress status. *J Occup Environ Med* 46(3):241-248.
- Li MS, Lou YP, Su ZY. 2007. Heavy metal concentrations in soils and plant accumulation in a restored manganese mineland in Guangxi, South China. *Environ Pollut* 147:168-175.
- *Liccione JJ, Maines MD. 1988. Selective vulnerability of glutathione metabolism and cellular defense mechanisms in rat striatum to manganese. *J Pharmacol Exp Ther* 247:156-161.
- *Lide DR, ed. 2000. CRC Handbook of chemistry and physics. New York, NY: CRC Press LLC., 4-1, 6-66, 6-68.
- +*Lim KO, Stark DD, Leese PT, et al. 1991. Hepatobiliary MR imaging: First human experience with MnDPDP. *Radiology* 178:79-82.
- *Lima PDL, Vasconcellos MC, Bahia MO, et al. 2008. Genotoxic and cytotoxic effects of manganese chloride in cultured human lymphocytes treated in different phases of cell cycle. *Toxicol In Vitro* 22(4):1032-1037.
- +*Lin TH, Chen JG, Liaw JM, et al. 1996. Trace elements and lipid peroxidation in uremic patients on hemodialysis. *Biol Trace Elem Res* 51:277-283.
- *Lioy PJ. 1983. Air pollution emission profiles of toxic and trace elements from energy related sources: Status and needs. *Neurotoxicology* 4(3):103-112.
- Lioy PJ, Daisey JM. 1987. Toxic air pollution: A comprehensive study of non-criteria air pollutants. Chelsea, MI: Lewis Publishers, Inc.
- +*Lipe GW, Duhart H, Newport GD, et al. 1999. Effect of manganese on the concentration of amino acids in different regions of the rat brain. *J Environ Sci Health B* 34(1):119-132.
- Lisi P, Caraffini S. 1985. Pellagroid dermatitis from mancozeb with vitiligo. *Contact Dermatitis* 13:124-125.
- Lisi P, Caraffini S, Assalve D. 1987. Irritation and sensitization potential of pesticides. *Contact Dermatitis* 17:212-218.
- Liu S, Wang J, Kang J, et al. 2000. Alterations in the properties and isoforms of sciatic nerve Na⁺, K⁺-ATPase in methylcyclopentadienyl manganese tricarbonyl-treated mice. *Environ Res Section A* 82:239-244.
- +*Liu X, Sullivan KA, Madl JE, et al. 2006. Manganese-induced neurotoxicity: The role of astroglial-derived nitric oxide in striatal interneuron degeneration. *Toxicol Sci* 91(2):521-531.
- Liu X, Buffington JA, Tjalkens RB. 2005. NF-KB-dependent production of nitric oxide by astrocytes mediates apoptosis in differentiated PC12 neurons following exposure to manganese and cytokines. *Brain Res Mol Brain Res* 141:39-47.
- *Livingston AL. 1978. Forage plant estrogens. *J Toxicol Environ Health* 4(2-3):301-324.

9. REFERENCES

- Ljung K, Vahter M. 2007. Time to re-evaluate the guideline value for manganese in drinking water? *Environ Health Perspect* 115:1533-1538.
- Llobet JM, Schuhmacher M, Domingo JL. 2002. Spatial distribution and temporal variation of metals in the vicinity of a municipal solid waste incinerator after a modernization of the flue gas cleaning systems of the facility. *Sci Total Environ* 284:205-214.
- Llorens JF, Fernandez-Turiel JL, Querol X. 2001. The fate of trace elements in a large coal-fired power plant. *Environ Geol* 40(4-5):409-416.
- +*Lloyd Davies TA. 1946. Manganese pneumonitis. *Br J Ind Med* 3:111-135.
- +Lloyd Davies TA, Harding HE. 1949. Manganese pneumonitis: Further clinical and experimental observations. *Br J Ind Med* 6:82-90.
- Lo KSL, Chen YH. 1990. Extracting heavy metals from municipal and industrial sludges. *Sci Total Env* 90:99-116.
- +*London RE, Toney G, Gabel SA, et al. 1989. Magnetic resonance imaging studies of the brains of anesthetized rats treated with manganese chloride. *Brain Res Bull* 23:229-235.
- *Lönnnerdal B. 1997. Effects of milk and milk components on calcium, magnesium, and trace element absorption during infancy. *Physiol Rev* 77:643-669.
- *Lönnnerdal B, Keen CL, Bell JG, et al. 1987. Manganese uptake and retention: Experimental animal and human studies. In: Kies C, ed. Nutritional bioavailability of manganese: ACS Symposium Series 354, Washington, DC: American Chemical Society, 9-20.
- *Lönnnerdal B, Keen CL, Ohtake M, et al. 1983. Iron, zinc, copper, and manganese in infant formulas. *Am J Dis Child* 137:433-437.
- Lönnnerdal B, Kelleher SL, Kaup SM, et al. 1998. Effect of manganese level of infant formula on manganese and iron status and retention in infant monkeys [Abstract]. *FASEB J* 12:A970.
- +*Lönnnerdal B, Yuen M, Huang S. 1994. Calcium, iron, zinc, copper and manganese bioavailability from infant formulas and weaning diets assessed in rat pups. *Nutr Res* 14:1535-1548.
- *Loranger S, Zayed J. 1994. Manganese and lead concentrations in ambient air and emission rates from unleaded and leaded gasoline between 1981 and 1992 in Canada: A comparative study. *Atmos Environ* 28:1645-1651.
- *Loranger S, Zayed J. 1995. Environmental and occupational exposure to manganese: A multimedia assessment. *Int Arch Occup Environ Health* 67(2):101-110.
- *Loranger S, Zayed J. 1997a. Environmental contamination and human exposure to airborne total and respirable manganese in Montreal. *J Air Waste Manag Assoc* 47(9):983-989.
- *Loranger S, Zayed J. 1997b. Environmental contamination and human exposure assessment to manganese in the St. Lawrence River ecozone (Quebec, Canada) using an environmental fate/exposure model: Geotox. *SAR QSAR Environ Res* 6:105-119.

9. REFERENCES

- +*Loranger S, Demers G, Kennedy G, et al. 1994b. The pigeon (*Columba livia*) as a monitor for manganese contamination from motor vehicles. *Arch Environ Contam Toxicol* 27:311-317.
- *Loranger S, Tetrault M, Kennedy G, et al. 1996. Manganese and other trace elements in urban snow near an expressway. *Environ Pollut* 92(2):203-211.
- *Loranger S, Zayed J, Forget E. 1994a. Manganese contamination in Montreal in relation with traffic density. *Water Air Soil Pollut* 74:385-396.
- *Loranger S, Zayed J, Kennedy G. 1995. Contribution of methylcyclopentadienyl manganese tricarbonyl (MMT) to atmospheric manganese concentration near expressway: Dispersion modeling estimations. *Atmos Environ* 29(5):591-599.
- Louis ED, Applegate LM, Factor-Litvak P, et al. 2004. Essential tremor: Occupational exposure to manganese and organic solvents. *Neurology* 63:2162-2164.
- Lovley DR. 1991. Dissimilatory Fe(III) and Mn(IV) reduction. *Microbiol Rev* 55:259-287.
- +*Lown BA, Morganti JB, D'Agostino R, et al. 1984. Effects on the postnatal development of the mouse of preconception, postconception and/or suckling exposure to manganese via maternal inhalation exposure to MnO₂ dust. *Neurotoxicology* 5:119-129.
- Lu L, Zhang L, Li GJ, et al. 2005. Alteration of serum concentrations of manganese, iron, ferritin, and transferrin receptor following exposure to welding fumes among career welders. *Neurotoxicology* 26:257-265.
- *Lucchini RG, Albini E, Benedetti L, et al. 2007. High prevalence of parkinsonian disorders associated to manganese exposure in the vicinities of ferroalloy industries. *Am J Ind Med* 50:788-800.
- +*Lucchini R, Apostoli P, Perrone C, et al. 1999. Long term exposure to "low levels" of manganese oxides and neurofunctional changes in ferroalloy workers. *Neurotoxicology* 20:287-298.
- +*Lucchini R, Selis L, Folli D, et al. 1995. Neurobehavioral effects of manganese in workers from a ferroalloy plant after temporary cessation of exposure. *Scand J Work Environ Health* 21:143-149.
- +Lustig S, Pitlik SD, Rosenfeld JB. 1982. Liver damage in acute self-induced hypermanganemia. *Arch Intern Med* 142:405-406.
- Luthen F, Bulnheim U, Muller PD, et al. 2007. Influence of manganese ions on cellular behavior of human osteoblasts in vitro. *Biomol Eng* 24:531-536.
- +*Lydén A, Larsson B, Lindquist NG. 1984. Melanin affinity of manganese. *Acta Pharmacol Toxicol* 55:133-138.
- Lyman WR. 1971. The metabolic fate of Dithane M-45.
- *Lynam DR, Pfeifer GD, Fort BF, et al. 1990. Environmental assessment of MMT fuel additive. *Sci Total Environ* 93:107-114.

9. REFERENCES

- *Lynam DR, Pfeifer GD, Fort BF, et al. 1994. Atmospheric exposure to manganese from use of methylcyclopentadienyl manganese tricarbonyl (MMT) performance additive. *Sci Total Environ* 146/147:103-109.
- *Lynam DR, Roos JW, Pfeifer GD, et al. 1999. Environmental effects and exposures to manganese from use of methylcyclopentadienyl manganese tricarbonyl (MMT) in gasoline. *Neurotoxicology* 20:145-150.
- *Lytle CM, McKinnon CZ, Smith BN. 1994. Manganese accumulation in roadside soil and plants. *Naturwissenschaften* 81:509-510.
- Maci R and Arias E. 1987. Teratogenic effects of the fungicide maneb on chick embryos. *Ecotoxicol Environ Safety* 13:169-173.
- +Mahoney JP, Small WJ. 1968. Studies on manganese: III. The biological half-life of radiomanganese in man and factors which affect this half-life. *J Clin Invest* 47:643-653.
- +*Maigetter RZ, Ehrlich R, Fenters JD, et al. 1976. Potentiating effects of manganese dioxide on experimental respiratory infections. *Environ Res* 11:386-391.
- Maini P and Boni R. 1986. Gas chromatographic determination of dithiocarbamate fungicides in workroom air. *Bull Environ Contam Toxicol* 37:931-937.
- Malecki EA. 2001. Manganese toxicity is associated with mitochondrial dysfunction and DNA fragmentation in rat primary striatal neurons. *Brain Res Bull* 55(2):225-228.
- Malecki EA, Greger JL. 1995. Manganese protects against heart mitochondrial lipid peroxidation in rats fed high levels of polyunsaturated fatty acids. *J Nutr* 126:27-33.
- Malecki EA, Devenyi AG, Beard JL. 1998. Transferrin response in normal and iron-deficient mice heterozygotic for hypotransferrinemia; effects on iron and manganese accumulation. *Biometals* 11:265-276.
- Malecki EA, Devenyi AG, Beard JL, et al. 1999. Existing and emerging mechanisms for transport of iron and manganese to the brain. *J Neurosci Res* 56:113-122.
- *Malecki EA, Radzanowski GM, Radzanowski TJ, et al. 1996. Biliary manganese excretion in conscious rats is affected by acute and chronic manganese intake but not by dietary fat. *J Nutr* 126:489-498.
- *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.
- Malthankar GV, White BK, Bhushan A, et al. 2004. Differential lowering by manganese treatment of activities of glycolytic and tricarboxylic acid (TCA) cycle enzymes investigated in neuroblastoma and astrocytoma cells is associated with manganese-induced cell death. *Neurochem Res* 29(4):709-717.
- Mandgzhgaladze RN. 1966a. [Effect of manganese compounds on the estrous cycle and embryogeny of experimental animals.] Sb Tr Nauch-Issled Inst Gig Tr Profzabol, Tiflis 10:219-223. (Russian)

9. REFERENCES

- Mandgzhgaladze RN. 1966b. [Effect of manganese compounds on the sexual function of male rats.] Sb Tr Nauch-Issled Inst Gig Tr Progzabol, Tiflis 10:191-195. (Russian)
- Manuzzi P, Borrello P, Misciali C, et al. 1988. Contact dermatitis due to ziram and maneb. Contact Dermatitis 19:148.
- *Mari M, Ferre-Huguet N, Nadal M, et al. 2007. Temporal trends in metal concentrations in soils and herbage collected near a municipal waste incinerator: Human health risks. Hum Ecol Risk Assess 13:457-472.
- Markesberry WR, Ehmann WD, Hossain TI, et al. 1984. Brain manganese concentrations in human aging and Alzheimer's disease. Neurotoxicology 5:49-57.
- Marriott LD, Foote KD, Kimber AC, et al. 2007. Zinc, copper, selenium and manganese blood levels in preterm infants. Arch Dis Child Fetal Neonatal Ed 92:F494-F497.
- Marsh GM, Gula MJ. 2006. Employment as a welder and Parkinson disease among heavy equipment manufacturing workers. J Occup Environ Med 48(10):1031-1046.
- Martin CJ. 2006. Manganese neurotoxicity: Connecting the dots along the continuum of dysfunction. Neurotoxicology 27:347-349.
- Marty JL, Noguer T. 1993. Bi-enzyme amperometric sensor for the detection of dithiocarbamate fungicides. Analysis 21:231-233.
- +Matrone G, Hartman RH, Clawson AJ. 1959. Studies of a manganese-iron antagonism in the nutrition of rabbits and baby pigs. J Nutr 67:309-317.
- Matsushita T, Arimatsu Y, Nomura S. 1976. Experimental study on contact dermatitis caused by dithiocarbamates maneb, mancozeb, zineb, and their related compounds. Int Arch Occup Environ Health 37:169-178.
- *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(2-3):135-149.
- *McBride MB. 1979. Chemisorption and precipitation of Mn²⁺ at CaCO₃ surfaces. Soil Sci Soc Am J 43:693-698.
- McCleod HA, McCully KA. 1969. Head space gas procedure for screening food samples for dithiocarbamate residues. J AOAC 52:1226-1230.
- +*McGinley PA, Morris JB, Clay RJ, et al. 1987. Disposition and toxicity of methylcyclopentadienyl manganese tricarbonyl in the rat. Toxicol Lett 36:137-145.
- Mchichi BE, Hadji A, Vazquez A, et al. 2007. p38 MAPK and MSK1 mediate caspase-8 activation in manganese-induced mitochondria-dependent cell death. Cell Death Differ 14:1826-1836.
- McKinney AM, Filice RW, Teksam M, et al. 2004. Diffusion abnormalities of the globi pallidi in manganese neurotoxicity. Neuroradiology 46:291-295.

9. REFERENCES

- McMillan DE. 1999. A brief history of the neurobehavioral toxicity of manganese: Some unanswered questions. *Neurotoxicology* 20:499-508.
- *MDNR. 1990. Written communication regarding contaminant levels in water at hazardous waste sites. Jefferson City, MO: Missouri Department of Natural Resources.
- Meco G, Bonifati V, Vanacore N, et al. 1994. Parkinsonism after chronic exposure to the fungicide maneb (manganese ethylene bis-dithiocarbamate). *Scand J Work Environ Health* 20:301-305.
- +Mehta R, Reilly JJ. 1990. Manganese levels in a jaundiced long-term total parenteral nutrition patient: Potentiation of haloperidol toxicity? Case report and literature review. *JPEN J Parenter Enteral Nutr* 14:428-430.
- Mena I. 1974. The role of manganese in human disease. *Ann Clin Lab Sci* 4:487-491.
- *Mena I. 1979. Manganese poisoning. In: Vinken PJ, Bruyn GW, eds. *Handbook of Clinical Neurology*. Amsterdam, the Netherlands: North-Holland Publishing Co., 217-237.
- +*Mena I, Horiuchi K, Burke K, et al. 1969. Chronic manganese poisoning: Individual susceptibility and absorption of iron. *Neurology* 19:1000-1006.
- *Mena I, Horiuchi K, Lopez G. 1974. Factors enhancing entrance of manganese into the brain: Iron deficiency and age. *J Nucl Med* 15:516.
- +*Mena I, Marin O, Fuenzalida S, et al. 1967. Chronic manganese poisoning: Clinical picture and manganese turnover. *Neurology* 17:128-136.
- Menezes LM, Campos LC, Quintao CC, et al. 2004. Hypersensitivity to metals in orthodontics. *Am J Orthod Dentofacial Orthop* 126:58-64.
- Mergler D. 1999. Neurotoxic effects of low level exposure to manganese in human populations. *Environ Res Section A* 80:99-102.
- +*Mergler D, Baldwin M, Bélanger S, et al. 1999. Manganese neurotoxicity, a continuum of dysfunction: Results from a community based study. *Neurotoxicology* 20:327-342.
- +*Mergler D, Huel G, Bowler R, et al. 1994. Nervous system dysfunction among workers with long-term exposure to manganese. *Environ Res* 64:151-180.
- Michalke B, Berthele A, Mistriotis P, et al. 2007b. Manganese speciation in human cerebrospinal fluid using CZE coupled to inductively coupled plasma MS. *Electrophoresis* 28:1380-1386.
- Michalke B, Berthele A, Mistriotis P, et al. 2007c. Manganese species from human serum, cerebrospinal fluid analyzed by size exclusion chromatography-, capillary electrophoresis coupled to inductively coupled plasma mass spectrometry. *J Trace Elem Med Biol* 21:4-9.
- Michalke B, Halbach S, Nischwitz V. 2007a. Speciation and toxicological relevance of manganese in humans. *J Environ Monit* 9:650-656.
- Micheli R, Godani C, Sciola L, et al. 1999. Enhancing effect of manganese on L-DOPA-induced apoptosis in PC12 cells: Role of oxidative stress. *J Neurochem* 73:1155-1163.

9. REFERENCES

- Milatovic D, Yin Z, Gupta RC, et al. 2007. Manganese induces oxidative impairment in cultured rat astrocytes. *Toxicol Sci* 98(1):198-205.
- *Miller KB, Caton JS, Finley JW. 2006. Manganese depresses rat heart muscle respiration. *Biofactors* 28:33-46.
- *Miller KB, Caton JS, Schafer DM, et al. 2000. High dietary manganese lowers heart magnesium in pigs fed a low-magnesium diet. *J Nutr* 130:2032-2035.
- *Miller KB, Newman SM, Caton JS, et al. 2004. Manganese alters mitochondrial integrity in the hearts of swine marginally deficient in magnesium. *Biofactors* 20:86-96.
- +*Miller ST, Cotzias GC, Evert HA. 1975. Control of tissue manganese: Initial absence and sudden emergence of excretion in the neonatal mouse. *Am J Physiol* 229:1080-1084.
- +*Minoia C, Sabbioni E, Apostoli P, et al. 1990. Trace element reference values in tissues from inhabitants of the European community. I. A study of 46 elements in urine, blood and serum of Italian subjects. *Sci Total Environ* 95:89-105.
- Minyard JP, Roberts WE. 1991. State findings on pesticide residues in foods: 1988 and 1989. *J Assoc Off Anal Chem* 74:438-452.
- Missy P, Lanwers M, Cunat L, et al. 2000a. Effects of subchronic exposure to manganese chloride on tissue distribution of three essential elements in rats. *Int J Toxicol* 19:313-321.
- Missy P, Lanwers M, Grignon Y, et al. 2000b. In vitro and in vivo studies on chelation of manganese. *Hum Exp Toxicol* 19:448-456.
- Mitchell JA, Long SF, Wilson MC, et al. 1989. The behavioral effects of pesticides in male mice. *Neurotoxicol Teratol* 11:45-50.
- *Mölders N, Schilling PJ, Wong J, et al. 2001. X-ray fluorescence mapping and micro-XANES spectroscopic characterization of exhaust particulates emitted from auto engines burning MMT-added gasoline. *Environ Sci Technol* 35(15):3122-3129.
- Monis B, Valentich MA. 1993. Promoting effects of mancozeb on pancreas of nitrosomethylurea-treated rats. *Carcinogenesis* 14:929-933.
- +*Montes S, Alcaraz-Zubeldia M, Muriel P, et al. 2001. Striatal manganese accumulation induces changes in dopamine metabolism in the cirrhotic rat. *Brain Res* 891:123-129.
- +*Montes S, Perez-Severiano F, Vergara P, et al. 2006. Nitric oxide production in striatum and pallidum of cirrhotic rats. *Neurochem Res* 31(1):11-20.
- Montes S, Riojas-Rodriquez H, Sabido-Pedraza E, et al. 2008. Biomarkers of manganese exposure in a population living close to a mine and mineral processing plant in Mexico. *Environ Res* 106:89-95.
- +*Moore W, Hysell D, Miller R, et al. 1975. Exposure of laboratory animals to atmospheric manganese from automotive emissions. *Environ Res* 9:274-284.

9. REFERENCES

- Morato GS, Lemos T, Takahashi RN. 1988. Acute exposure to maneb alters some behavioral functions in the mouse. *Neurotoxicol Teratol* 11:421-425.
- Morello M, Canini A, Mattioli P, et al. 2008. Sub-cellular localization of manganese in the basal ganglia of normal and manganese-treated rats. An electron spectroscopy imaging and electron energy-loss spectroscopy study. *Neurotoxicology* 29:60-72.
- +*Morello M, Zatta P, Zambenedetti P, et al. 2007. Manganese intoxication decreases the expression of manganoproteins in the rat basal ganglia: An immunohistochemical study. *Brain Res Bull* 74:406-415.
- Morgan JM. 1972. Hepatic copper, manganese, and chromium content in bronchogenic carcinoma. *Cancer* 29:710-713.
- +*Morganti JB, Lown BA, Stineman CH, et al. 1985. Uptake, distribution and behavioral effects of inhalation exposure to manganese (MnO_2) in the adult mouse. *Neurotoxicology* 6:1-16.
- Morris PD, Koepsell TD, Daling JR, et al. 1986. Toxic substance exposure and multiple myeloma: A case-control study. *J Natl Cancer Inst* 76:987-994.
- *Morselli PL, Franco-Morselli R, Bossi L. 1980. Clinical pharmacokinetics in newborns and infants: Age-related differences and therapeutic implications. *Clin Pharmacokin* 5(6):485-527.
- *Mortelmans K, Haworth S, Lawlor T, et al. 1986. Salmonella mutagenicity tests: II. Results from testing of 270 chemicals. *Environ Mutagen* 8:1-26.
- *Moser VC. 2000. The functional observational battery in adult and developing rat. *Neurotoxicology* 21(6):989-996.
- *Mossman BT, Surinrut P, Brinton BT, et al. 1996. Transfection of a manganese-containing superoxide dismutase gene into hamster tracheal epithelial cells ameliorates asbestos-mediated cytotoxicity. *Free Radical Biol Med* 21:125-131.
- Mouri T. 1973. [Experimental studies on the inhalation of manganese dust.] *Shikoku Acta Medica* 29:118-129. (Japanese)
- Mumma RO, Raupach DC, Waldman JP, et al. 1984. National survey of elements and other constituents in municipal sewage sludges. *Arch Environ Contam Toxicol* 13:75-83.
- Munk R, Schulz V. 1989. Study of possible teratogenic effects of the fungicide maneb on chick embryos. *Ecotoxicol Environ Safety* 17:112-118.
- *Murphy VA, Wadhwani KC, Smith QR, et al. 1991. Saturable transport of manganese (II) across the rat blood-brain barrier. *J Neurochem* 57:948-954.
- Murthy GK, Rhea U, Peeler JT. 1971. Levels of antimony, cadmium, chromium, cobalt, manganese, and zinc in institutional total diets. *Environ Sci Technol* 5:436-442.
- Mustafa SJ, Chandra SV. 1972. Adenosine deaminase and protein pattern in serum and cerebrospinal fluid in experimental manganese encephalopathy. *Arch Toxicol* 28:279-285.

9. REFERENCES

- Mutkus L, Aschner JL, Fitsanakis V, et al. 2005. The in vitro uptake of glutamate in GLAST and GLT-1 transfected mutant CHO-K1 cells is inhibited by manganese. *Biol Trace Elem Res* 107:221-230.
- Mutti A, Smargiassi A. 1998. Selective vulnerability of dopaminergic systems to industrial chemicals: Risk assessment of related neuroendocrine changes. *Toxicol Ind Health* 14:311-324.
- +*Myers JE, teWaterNaude J, Fourie M, et al. 2003a. Nervous system effects of occupational manganese exposure on South African manganese mineworkers. *Neurotoxicology* 24(4-5):649-656.
- Myers JE, Thompson ML, Naik I, et al. 2003c. The utility of biological monitoring for manganese in Ferroally smelter workers in South Africa. *Neurotoxicology* 24:875-883.
- +*Myers JE, Thompson ML, Ramushu S, et al. 2003b. The nervous system effects of occupational exposure on workers in a South African manganese smelter. *Neurotoxicology* 24:885-894.
- +*Nachtman JP, Tubben RE, Commissaris RL. 1986. Behavioral effects of chronic manganese administration in rats: Locomotor activity studies. *Neurobehav Toxicol Teratol* 8:711-715.
- Nagata H, Miyata S, Nakamura S, et al. 1985. Heavy metal concentrations in blood cells in patients with amyotrophic lateral sclerosis. *J Neurol Sci* 67:173-185.
- +*Nagatomo S, Umehara F, Hanada K, et al. 1999. Manganese intoxication during total parenteral nutrition: report of two cases and review of the literature. *J Neurol Sci* 162:102-105.
- Nakata A, Araki S, Park S, et al. 2006. Decreases in CD8+ T, naive (CD4+CD45RA+) T, and B (CD19+) lymphocytes by exposure to manganese fume. *Ind Health* 44:592-597.
- *NAS. 1973. Manganese in the ecosystem. In: *Medical and biological effects of environmental pollutants: Manganese*. Washington, DC: National Academy of Sciences, 3-50.
- *NAS. 1977. Drinking water and health. Washington, DC: National Academy of Sciences, 214-215, 267-270, 311-312.
- *NAS. 1980a. Drinking water and health. Vol. 3. Washington, DC: National Academy Press, 331-337.
- *NAS. 1980b. Manganese. In: *Recommended dietary allowances*. 9th revised ed. Washington, DC: National Academy of Sciences, 154-157.
- NAS. 1982. Drinking water and health. Vol. 4. Washington, DC: National Academy Press, 93.
- *NAS/NRC. 1989. Report of the oversight committee. In: *Biologic markers in reproductive toxicology*. Washington, DC: National Academy of Sciences, National Research Council, National Academy Press, 15-35.
- Nash RG, Beall ML. 1980. Fate of maneb and zineb fungicides in microagroecosystems chambers. *J Agric Food Chem* 28:322-330.
- +*Naslund PE, Andreasson S, Bergstrom R, et al. 1990. Effects of exposure to welding fume: An experimental study in sheep. *Eur Respir J* 3:800-806.

9. REFERENCES

- Nater JP, Terpstra H, Bleumink E. 1979. Allergic contact sensitization to the fungicide maneb. Contact Dermatitis 5:24-26.
- +*Nelson K, Golnick J, Korn T, et al. 1993. Manganese encephalopathy: Utility of early magnetic resonance imaging. Br J Ind Med 50: 510-513.
- *Newland MC. 1999. Animal models of manganese's neurotoxicity. Neurotoxicology 20:415-432.
- +*Newland MC, Weiss B. 1992. Persistent effects of manganese on effortful responding and their relationship to manganese accumulation in the primate globus pallidus. Toxicol Appl Pharmacol 113:87-97.
- +*Newland MC, Ceckler TL, Kordower JH, et al. 1989. Visualizing manganese in the primate basal ganglia with magnetic resonance imaging. Exp Neurology 106:251-258.
- +*Newland MC, Cox C, Hamada R, et al. 1987. The clearance of manganese chloride in the primate. Fundam Appl Toxicol 9:314-328.
- Newsome WH. 1974. The excretion of ethylenethiourea by rat and guinea pig. Bull Environ Contam Toxicol 11:174-176.
- *Ni Y, Petre C, Bosmans H, et al. 1997. Comparison of manganese biodistribution and MR contrast enhancement in rats after intravenous injection of MnDPDP and MnCl₂. Acta Radiol 38:700-707.
- NIOSH. 1984a. Total manganese-method 7200. In: NIOSH manual of analytical methods. 3rd ed. Vol. 1. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 84-100.
- NIOSH. 1984b. Total manganese-method 7300. In: NIOSH manual of analytical methods. 3rd ed. Vol. 1. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 84-100.
- *NIOSH. 1984c. Elements in blood or tissue-method 8005. In: NIOSH manual of analytical methods. 3rd ed. Vol. 2. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 84-100.
- *NIOSH. 1984d. Metals in urine-method 8310. In: NIOSH manual of analytical methods. 3rd ed. Vol. 2. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 84-100.
- *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. 2003a. Method 7300. Elements by ICP. (Nitric/perchloric acid ashing). NIOSH manual of analytical methods (NMAM). 4th ed. National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/nmam/pdfs/7300.pdf>. April 30, 2008.

9. REFERENCES

- *NIOSH. 2003b. Method 7303. Elements by ICP. (Hot block/HCL/HNO₃ digestion). NIOSH manual of analytical methods (NMAM). 4th ed. National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/nmam/pdfs/7303.pdf>. May 01, 2008.
- *NIOSH. 2003c. Method 7301. Elements by ICP. (Aqua regia ashing). NIOSH manual of analytical methods (NMAM). 4th ed. National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/nmam/pdfs/7301.pdf>. May 01, 2008.
- *NIOSH. 2005. Manganese. 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.
- Nishiayama K, Suzuki Y, Fujii N, et al. 1975. [Effect of long-term inhalation of manganese dusts. II. Continuous observation of the respiratory organs of monkeys and mice.] Jap J Hyg 30:117. (Japanese)
- +Nishida M, Ogata K, Sakurai H, et al. 1992. A binding profile of manganese to the nucleus of rat liver cells, and manganese-induced aberrations in thyroid hormone content and RNA synthesis in the nucleus. Biochem Int 27:209-219.
- *Nishioka H. 1975. Mutagenic activities of metal compounds in bacteria. Mutat Res 31:185-189.
- *NLM. 2008. Manganese violet. Household products database. Health and safety information on household products. National Library of Medicine. <http://householdproducts.nlm.nih.gov/cgi-bin/household/brands?tbl=chem&id=1556>. June 18, 2008.
- *NOES. 1989. National Occupational Exposure Survey. National Institute of Occupational Safety and Health, Cincinnati, OH. October 18, 1989.
- +*Nogawa K, Kobayashi E, Sakamoto M, et al. 1973. Epidemiological studies on disturbance of respiratory system caused by manganese air pollution: (Report 1) Effects on respiratory system of junior high school students. Nippon Koshu Eisei Zasshi 20(6):315-325.
- Noguer T and Marty JL. 1997. High sensitive bienzymic sensor for the detection of dithiocarbamate fungicides. Anal Chim Acta 347:63-70.
- NOHS. 1989. National Occupational Hazard Survey. National Institute of Occupational Safety and Health, Cincinnati, OH. October 18, 1989.
- *Nolte W, Wiltfang J, Schindler CG, et al. 1998. Bright basal ganglia in T1-weighted magnetic resonance images are frequent in patients with portal vein thrombosis without liver cirrhosis and not suggestive of hepatic encephalopathy. J Hepatol 29:443-449.
- *Nong A, Teeguarden JG, Clewell HJ, et al. 2008. Pharmacokinetic modeling of manganese in the rat IV: Assessing factors that contribute to brain accumulation during inhalation exposure. J Toxicol Environ Health A 71:413-426.
- Nordhoy W, Anthonsen HW, Bruvold M, et al. 2003. Manganese ions as intracellular contrast agents: Proton relaxation and calcium interactions in rat myocardium. NMR Biomed 16:82-95.

9. REFERENCES

- *Normandin L, Beaupre LA, Salehi F, et al. 2004. Manganese distribution in the brain and neurobehavioral changes following inhalation exposure of rats to three chemical forms of manganese. *Neurotoxicology* 25:433-441.
- +*Normandin L, Carrier G, Gardiner PF, et al. 2002. Assessment of bioaccumulation, neuropathology, and neurobehavior following subchronic (90 days) inhalation in Sprague-Dawley rats exposed to manganese phosphate. *Toxicol Appl Pharmacol* 183:135-145.
- *NRC. 1993. National Research Council. Pesticides in the diets of infants and children. Washington, DC: National Academy Press.
- *NRC. 1989. Recommended dietary allowances. Washington, DC: National Research Council. Tenth Edition, 230-235.
- *Nriagu JO. 1979. Copper in the atmosphere and precipitation. In: Nriagu JO, ed. Copper in the environment. Part I: Ecological cycling. New York, NY: John Wiley and Sons, Inc., 43-67.
- +*NTP. 1987b. The chronic study of manganese sulfate monohydrate (CAS No. 10034-96-5) in B6C3F1 mice. Research Triangle Park, NC: National Toxicology Program.
- +*NTP. 1987a. The chronic study of manganese sulfate monohydrate (CAS No. 10034-96-5) in F344 rats. Research Triangle Park, NC: National Toxicology Program.
- NTP. 1990. Manganese sulfate monohydrate. In: Chemical status report produced from NTP chemtrack system. Research Triangle Park, NC: National Toxicology Program, 14.
- NTP. 1990. NTP Technical report on the perinatal toxicity and carcinogenicity studies on ethylene thiourea in F344 rats and B6C3F1 mice (feed studies). National Toxicology Program. NTO-TR-388, NIH Pub. No. 90-28-43.
- NTP. 1992. Technical report on the studies of manganese (II) sulfate monohydrate in F344/N rats and B6C3F1 mice. National Toxicological Program.
- +*NTP. 1993. Toxicology and carcinogenesis studies of manganese (II) sulfate monohydrate in F344/N rats and B6C3F1 mice (feed study). National Toxicology Program. Technical Report Series 428. RISKLINE 94030007.
- *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.
- Oakley AMM. 1988. Contact allergy to fungicide. *NZ Med J* 101:180-181.
- Obama K. 1996. Studies on allergic skin disease caused by pesticides in citrus growers: Field survey study and animal experiments. *Med J Kagoshima Univ* 48:13-22.
- Oberg TG. 2002. Prediction of vapour pressures for halogenated diphenyl ether congeners from molecular descriptors. *Environ Sci Pollut Res Int* 9(6):405-411.
- Oberley LW, Oberley TD, Buettner GR. 1980. Cell differentiation, aging and cancer: The possible roles of superoxide and superoxide dismutases. *Med Hypotheses* 6:249-268.

9. REFERENCES

- *Oberly TJ, Piper CE, McDonald DS. 1982. Mutagenicity of metal salts in the L5178Y mouse lymphoma assay. *J Toxicol Environ Health* 9:367-376.
- Ohashi F, Fukui Y, Takada S, et al. 2006. Reference values for cobalt, copper, manganese, and nickel in urine among women of the general population in Japan. *Int Arch Occup Environ Health* 80:117-126.
- Ohtake T, Negishi K, Okamoto K, et al. 2005. Manganese-induced Parkinsonism in a patient undergoing maintenance hemodialysis. *Am J Kidney Dis* 46(4):749-753.
- Oikawa S, Hirosaw I, Tada-Oikawa S, et al. 2006. Mechanism for manganese enhancement of dopamine-induced oxidative DNA damage and neuronal cell death. *Free Radic Biol Med* 41:748-756.
- Okumura D, Melnicoe R, Jackson T, et al. 1991. Pesticide residues in food crops analyzed by the California department of food and agriculture in 1989. *Rev Environ Contam Toxicol* 92:87-93.
- Okumura M, Anate T, Fujinaga K, et al. 2002. A simple and rapid in situ preconcentration method using solid-phase extraction for the determination of dissolved manganese in brackish lake water samples. *Anal Sci* 18:1093-1097.
- +*Olanow CW, Good PF, Shinotoh H, et al. 1996. Manganese intoxication in the rhesus monkey: A clinical, imaging, pathologic, and biochemical study. *Neurology* 46:492-498.
- *Ombaba JM, Barry EF. 1994. Determination of methylcyclopentadienyl manganese tricarbonyl in gasoline by capillary gas chromatography with alternating current plasma emission detection. *J Chromatogr A* 678:319-325.
- *O'Neil MJ, Heckelman PE, Koch CB, et al, eds. 2006. The Merck Index. 14th ed. Whitehouse Station, NJ: Merck & Co., Inc., 990-991, 1074-1075.
- +*Ono J, Harada K, Kodaka R. 1995. Manganese deposition in the brain during long-term total parenteral nutrition. *J Parent Enter Nutr* 19:310-312.
- Ono K, Komai K, Yamada M. 2002. Myoclonic involuntary movement associated with chronic manganese poisoning. *J Neurol Sci* 199(1-2):93-96.
- +Onoda K, Hasegawa A, Sunouchi M, et al. 1978. Studies on the fate of poisonous metals in experimental animal (VII): Distribution and transplacental passage of manganese in pregnant rat and fetus. *J Food Hyg Soc* 19:208-215.
- *Orgel A, Orgel LE. 1965. Induction of mutations in bacteriophage T4 with divalent manganese. *J Mol Biol* 14:453-457.
- OSHA. 1998. Occupational Safety and Health Administration. Code of Federal Regulations 29 CFR 1910.1000. Table Z-1. Limits for air contaminants.
- *OSHA. 2007a. 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.

9. REFERENCES

- *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 1910.1000, Table Z 1. <http://www.osha.gov/comp-links.html>. April 24, 2008.
- Ostiguy C, Asselin P, Malo S. 2006. The emergence of manganese-related health problems in Quebec: An integrated approach to evaluation, diagnosis, management and control. *Neurotoxicology* 27:350-356.
- *OTA. 1990. Neurotoxicity: Identifying and controlling poisons of the nervous system. Washington, DC: Office of Technology Assessment. OTABA438.
- *Owen GM, Brozek J. 1966. Influence of age, sex and nutrition on body composition during childhood and adolescence. In: Falkner F, ed. *Human development*. Philadelphia, PA: WB Saunders, 222-238.
- Pacces Zaffaroni N, Zavanella T, Arias E. 1979. Peripheral blood cells in the crested newt after long-term exposure to the fungicide manganese ethylenebisdiethiocarbamate (maneb). *Bull Environ Contam Toxicol* 23:587-591.
- Pacces Zaffaroni N, Arias E, Capodanno G, et al. 1978. The toxicity of manganese ethylenebisdiethiocarbamate to the adult newt, *Triturus cristatus*. *Bull Environ Contam Toxicol* 20:261-267.
- +*Padovani B, Lecesne R, Raffaelli C. 1996. Tolerability and utility of mangafodipir trisodium injection (MnDPDP) at the dose of 5 µmol/kg body weight in detecting focal liver tumors: Results of a phase III trial using an infusion technique. *Eur J Radiol* 23(3):205-211.
- *Pagano DA, Zeiger E. 1992. Conditions for detecting the mutagenicity of divalent metals in *Salmonella typhimurium*. *Environ Mol Mutagen* 19:139-146.
- *Pal PK, Samii A, Calne DB. 1999. Manganese neurotoxicity: A review of clinical features, imaging and pathology. *Neurotoxicology* 20(2-3):227-238.
- Papp A, Pecze L, Szabo A, et al. 2006. Effects on the central and peripheral nervous activity in rats elicited by acute administration of lead, mercury and manganese, and their combinations. *J Appl Toxicol* 26(4):374-380.
- +*Pappas BA, Zhang D, Davidson CM, et al. 1997. Perinatal manganese exposure: Behavioral, neurochemical, and histopathological effects in the rat. *Neurotoxicol Teratol* 19:17-25.
- +*Parenti M, Flauto C, Parati E, et al. 1986. Manganese neurotoxicity: Effects of L-DOPA and pargyline treatments. *Brain Res* 367:8-13.
- *Parenti M, Rusconi L, Cappabianca V, et al. 1988. Role of dopamine in manganese neurotoxicity. *Brain Res* 473:236-240.
- Park J, Yoo CI, Sim CS, et al. 2006a. A retrospective cohort study of Parkinson's disease in Korean shipbuilders. *Neurotoxicology* 27(3):445-449.

9. REFERENCES

- Park JD, Chung YH, Kim CY, et al. 2007a. Comparison of high MRI T1 signals with manganese concentration in brains of Cynomolgus monkeys after 8 months of stainless steel welding-fume exposure. *Inhal Toxicol* 19:965-971.
- Park JD, Kim KY, Kim DW, et al. 2007b. Tissue distribution of manganese in iron-sufficient or iron-deficient rats after stainless steel welding-fume exposure. *Inhal Toxicol* 19:563-572.
- *Park NH, Park JK, Choic Y, et al. 2003. Whole blood manganese correlates with high signal intensities on T1-weighted MRI in patients with liver cirrhosis. *Neurotoxicology* 24:909-915.
- Park RM, Bowler RM, Eggerth DE, et al. 2006b. Issues in neurological risk assessment for occupational exposures: The Bay Bridge welders. *Neurotoxicology* 27(3):373-384.
- Pascal LE, Tessier DM. 2004. Cytotoxicity of chromium and manganese to lung epithelial cells in vitro. *Toxicol Lett* 147(2):143-151.
- *Paschal DC, Ting BG, Morrow JC, et al. 1998. Trace metals in urine of United States residents: Reference range concentrations. *Environ Res* 76(1):53-59.
- Pastorelli R, Allevi R, Romagnano S, et al. 1995. Gas chromatography-mass spectrometry determination of ethylenethiourea hemoglobin adducts: A possible indicator of exposure to ethylene bis dithiocarbamate pesticides. *Arch Toxicol* 69:306-311.
- *Patterson KY, Holbrook JT, Bodner JE, et al. 1984. Zinc, copper, and manganese intake and balance for adults consuming self-selected diets. *Am J Clin Nutr* 40:1397-1403.
- *Paulson AJ, Feely RA, Curl HC, et al. 1984. Behavior of Fe, Mn, Cu and Cd in the Duwamish River estuary downstream of a sewage treatment plant. *Water Research* 18:633-641.
- +Paynter DI. 1980. Changes in activity of the manganese superoxide dismutase enzyme in tissues of the rat with changes in dietary manganese. *J Nutr* 110:437-447.
- Pease HL, Holt RF. 1977. Managanese ethylenebis (dithiocarbamate) (maneb)/ethylenethiourea (ETU) residue studies on five crops treated with ethylenebis (dithiocarbamate) (EBDC) fungicides. *J Agric Food Chem* 25:561-567.
- Pecze L, Papp A, Nagymajtenyi L. 2004. Changes in the spontaneous and stimulus-evoked activity in the somatosensory cortex of rats on acute manganese administration. *Toxicol Lett* 148(1-2):125-131.
- *Pellizzari ED, Clayton CA, Rodes CE, et al. 1999. Particulate matter and manganese exposures in Toronto, Canada. *Atmos Environ* 33:721-734.
- *Pellizzari ED, Clayton CA, Rodes CE, et al. 2001. Particulate matter and manganese exposures in Indianapolis, Indiana. *J Expo Anal Environ Epidemiol* 11(6):423-440.
- Penalver R. 1955. Manganese poisoning: The 1954 Ramazzini oration. *Ind Med Surg* 24:1-7.
- Penney DA, Hogberg K, Traiger GJ, et al. 1985. The acute toxicity of cyclopentadienyl manganese tricarbonyl in the rat. *Toxicology* 34:341-347.

9. REFERENCES

- *Pennington JAT, Young BE, Wilson DB, et al. 1986. Mineral content of foods and total diets: The selected minerals in foods survey, 1982 to 1984. *J Am Diet Assoc* 86:876-891.
- *Perl DP, Olanow CW. 2007. The neuropathology of manganese-induced Parkinsonism. *J Neuropathol Exp Neurol* 66(8):675-682.
- +*Perocco P, Santucci MA, Campani AG, et al. 1989. Toxic and DNA-damaging activities of the fungicides mancozeb and thiram (TMTD) on human lymphocytes in vitro. *Teratog Carcinog Mutagen* 9:75-81.
- Petrova-Vergieva T, Ivanova-Tchemishanska L. 1973. Assessment of the teratogenic activity of dithiocarbamate fungicides. *Food Cosmet Toxicol* 11:239-244.
- Pezzoli G, Canesi M, Ravina B, et al. 2001. (Comment on: Neurology 56:8-13). *Neurology* 57:936-937, 1738-1739.
- Pfeifer GD, Roper JM, Dorman D, et al. 2004. Health and environmental testing of manganese exhaust products from use of methylcyclopentadienyl manganese tricarbonyl in gasoline. *Sci Total Environ* 334-335:397-408.
- Phoon WH. 1988. Manganese exposure and biological indicators. *Singapore Med J* 29:93-94.
- Pierson WR, McKee DE, Brachaczek WW, et al. 1978. Methylcyclopentadienyl manganese tricarbonyl: Effect on manganese emissions from vehicles on the road. *J Air Pollut Control Assoc* 28:692-693.
- Pifl C, Khorchide M, Kattinger A, et al. 2004. alpha-Synuclein selectively increases manganese-induced viability loss in SK-N-MC neuroblastoma cells expressing the human dopamine transporter. *Neurosci Lett* 354(1):34-37.
- *Pihl RO, Parkes M. 1977. Hair element contents in learning disabled children. *Science* 198:204-206.
- *Pine M, Lee B, Dearth R, et al. 2005. Manganese acts centrally to stimulate luteinizing hormone secretion: A potential influence on female pubertal development. *Toxicol Sci* 85(2):880-885.
- Pinto FG, Rey UV, Fernandes EF, et al. 2006. Determination of manganese in urine and whole blood samples by electrothermal atomic absorption spectrometry: Comparison of chemical modifiers. *Anal Sci* 22(12):1605-1609.
- *Pisarczyk K. 2005. Manganese compounds. Kirk-Othmer encyclopedia of chemical technology. Vol. 15. <http://mrw.interscience.wiley.com/emrw/9780471238966/kirk/article/mangpisa.a01/current/pdf>. April 07, 2008.
- Piscator M. 1970. Health hazards from inhalation of metal fumes. *Environ Res* 11:268-270.
- +Plantin LO, Lying-Tunell U, Kristensson K. 1987. Trace elements in the human central nervous system studied with neutron activation analysis. *Biol Trace Elem Res* 13:69-75.
- Pleil JD, Oliver KD, McClenney WA. 1988. Ambient air analyses using nonspecific flame ionization and electron capture detection compared to specific detection by mass spectrometry. *J Air Pollut Control Assoc* 38:1006-1010.

9. REFERENCES

- +*Pollack S, George JN, Reba RC, et al. 1965. The absorption of nonferrous metals in iron deficiency. *J Clin Invest* 44:1470-1473.
- *Pomier-Layrargues G, Rose C, Spahr L, et al. 1998. Role of manganese in the pathogenesis of portal-systemic encephalopathy. *Metabol Brain Dis* 13:311-317.
- *Ponnamperuma FN, Loy TA, Tiano EM. 1969. Redox equilibria in flooded soils: II. The manganese oxide systems. *Soil Science* 108:48-57.
- +*Ponnappakkam TP, Bailey KS, Graves KA, et al. 2003a. Assessment of male reproductive system in the CD-1 mice following oral manganese exposure. *Reprod Toxicol* 17(5):547-551.
- +*Ponnappakkam T, Iszard M, Henry-Sam G. 2003b. Effects of oral administration of manganese on the kidneys and urinary bladder of Sprague-Dawley rats. *Int J Toxicol* 22:227-232.
- +*Ponnappakkam TP, Sam GH, Iszard MB. 2003c. Histopathological changes in the testis of the Sprague Dawley rat following orally administered manganese. *Bull Environ Contam Toxicol* 71(6):1151-1157.
- Pramod KP, Samii A, Calne DB. 1999. Manganese neurotoxicity: A review of clinical features, imaging, and pathology. *Neurotoxicology* 20:227-238.
- *Prestifilippo JP, Fernandez-Solari J, Mohn C, et al. 2007. Effect of manganese on luteinizing hormone-releasing hormone secretion in adult male rats. *Toxicol Sci* 97(1):75-80.
- Proctor NH, Hughes JP, Fischman ML. 1988. Chemical hazards of the workplace. 2nd ed. Philadelphia, PA: J.B. Lippincott Company, 307-308.
- Puli S, Lai JCK, Edgley KL, et al. 2006. Signaling pathways mediating manganese-induced toxicity in human glioblastoma cells (U87). *Neurochem Res* 31(10):1211-1218.
- *Quimby BD, Uden PC, Barnes RM. 1978. Atmospheric pressure helium microwave detection system for gas chromatography. *Anal Chem* 50:2112-2118.
- *Rabin O, Hegedus L, Bourre J-M, et al. 1993. Rapid brain uptake of manganese(II) across the blood-brain barrier. *J Neurochem* 61:509-517.
- *Racette BA, Antenor JA, McGee-Minnich L, et al. 2005. [¹⁸F]FDOPA PET and clinical features in parkinsonism due to manganism. *Mov Disord* 20(4):492-496.
- *Rai D, Zachara JM, Schwab AP, et al. 1986. Manganese. In: Chemical attenuation rates, coefficients, and constants in leachate migration. Volume 1: A critical review. Report to Electric Power Research Institute, Palo Alto, CA, by Battelle, Pacific Northwest Laboratories, Richland, WA, 15-1-15-4.
- Rama Rao KV, Reddy PV, Hazell AS, et al. 2007. Manganese induces cell swelling in cultured astrocytes. *Neurotoxicology* 28(4):807-812.
- Ramesh GT, Ghosh D, Gunasekar PG. 2002. Activation of early signaling transcription factor, NF-kappaB following low-level manganese exposure. *Toxicol Lett* 136(2):151-158.

9. REFERENCES

- +*Ranasinghe JGS, Liu M, Sakakibara Y, et al. 2000. Manganese administration induces the increased production of dopamine sulfate and depletion of dopamine in Sprague-Dawley rats. *J Biochem (Tokyo)* 128:477-480.
- Rangaswamy JR, Vijayashankar YN. 1975. A rapid method for the determination of manganese ethylenedithiocarbamate and its residues on grains. *J Assoc Off Anal Chem* 58:1232-1234.
- Rao A LJ, Malik AK, Kapoor J. 1993. Extraction spectrophotometric determination of maneb with 1-(2'-pyridylazo)-2-naphthol (PAN). *Talanta* 40:201-203.
- Rao DB, Wong BA, McManus BE, et al. 2003. Inhaled iron, unlike manganese, is not transported to the rat brain via the olfactory pathway. *Toxicol Appl Pharmacol* 193:116-126.
- *Rasmussen 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.
- Rathore HS, Sharma R, Mital S. 1997. Spot test analysis of pesticides: Detection of carbaryl and mancozeb in water. *Water Air Soil Pollut* 97:431-441.
- Reaney SH, Smith DR. 2005. Manganese oxidation state mediates toxicity in PC12 cells. *Toxicol Appl Pharmacol* 205:271-281.
- *Reaney SH, Bench G, Smith DR. 2006. Brain accumulation and toxicity of Mn(II) and Mn(III) exposures. *Toxicol Sci* 93(1):114-124.
- *Reddy MR, Perkins HF. 1976. Fixation of manganese by clay minerals. *Soil Science* 121:21-24.
- Reeves PG, Ralston NVD, Idso JP, et al. 2004. Contrasting and cooperative effects of copper and iron deficiencies in male rats fed different concentrations of manganese and different sources of sulfur amino acids in an AIN-93G-based diet. *J Nutr* 134:416-425.
- +*Rehnberg GL, Hein JF, Carter SD, et al. 1980. Chronic manganese oxide administration to pre-weanling rats: Manganese accumulation and distribution. *J Toxicol Environ Health* 6:217-226.
- +*Rehnberg GL, Hein JF, Carter SD, et al. 1981. Chronic ingestion of Mn₃O₄ by young rats: Tissue accumulation, distribution, and depletion. *J Toxicol Environ Health* 7:263-272.
- +*Rehnberg GL, Hein JF, Carter SD, et al. 1982. Chronic ingestion of Mn₃O₄ by rats: Tissue accumulation and distribution of manganese in two generations. *J Toxicol Environ Health* 9:175-188.
- +*Rehnberg GL, Hein JF, Carter SD, et al. 1985. Age-dependent changes in gastrointestinal transport and retention of particulate manganese oxide in the rat. *J Toxicol Environ Health* 16:887-899.
- +*Reichel CM, Wacan JJ, Farley CM, et al. 2006. Postnatal manganese exposure attenuates cocaine-induced locomotor activity and reduces dopamine transporters in adult male rats. *Neurotoxicol Teratol* 28(3):323-332.
- *Ressler T, Wong J, Roos J, et al. 2000. Quantitative speciation of Mn-bearing particulates emitted from auto burning (methylcyclopentadienyl) manganese tricarbonyl-added gasolines usine XANES spectroscopy. *Environ Sci Technol* 34:950-958.

9. REFERENCES

- Rhodes RC. 1977. Studies with manganese [14C]ethylenebis(dithiocarbamate)([14C]maneb) fungicide and [14C]ethylenethiourea ([14C]ETU) in plants, soil, and water. *J Agric Food Chem* 25:528-533.
- *Rice RH, Cohen DE. 1996. Toxic responses of the skin. In: Klassen CD, Amdur MO, Doull J, eds. Casarett and Doull's toxicology: The basic science of poisons. 5th ed. New York, NY: McGraw-Hill, 529-544.
- Robinson D. 2004. Subways grind out a dose of fine metals. *Environ Sci Technol* (Feb):49-50.
- +*Rodier J. 1955. Manganese poisoning in Moroccan miners. *Br J Ind Med* 12:21-35.
- *Rodríguez-Agudelo Y, Riojas-Rodriguez H, Rios C, et al. 2006. Motor alterations associated with exposure to manganese in the environment in Mexico. *Sci Total Environ* 368(2-3):542-556.
- +*Roels H, Lauwerys R, Buchet JP, et al. 1987a. Epidemiological survey among workers exposed to manganese: Effects on lung, central nervous system, and some biological indices. (Erratum in: *Am J Ind Hyg* 12:119-120). *Am J Ind Med* 11:307-327.
- *Roels H, Lauwerys R, Genet P, et al. 1987b. Relationship between external and internal parameters of exposure to manganese in workers from a manganese oxide and salt producing plant. *Am J Ind Med* 11:297-305.
- Roels H et al. 1987c. (Erratum on: *Am J Ind Med* 11:307-327).
- +*Roels H, Meiers G, Delos M, et al. 1997. Influence of the route of administration and the chemical form ($MnCl_2$, MnO_2) on the absorption and cerebral distribution of manganese in rats. *Arch Toxicol* 71:223-230.
- +Roels H, Sarhan MJ, Hanotiau I, et al. 1985. Preclinical toxic effects of manganese in workers from a manganese salts and oxides producing plant. *Sci Total Environ* 42:201-206.
- +*Roels HA, Ghyselen P, Buchet JP, et al. 1992. Assessment of the permissible exposure level to manganese in workers exposed to manganese dioxide dust. *Br J Ind Med* 49:25-34.
- +*Roels HA, Ortega Eslava MI, Ceulemans E, et al. 1999. Prospective study on the reversibility of neurobehavioral effects in workers exposed to manganese dioxide. *Neurotoxicology* 20:255-272.
- +*Rogers RR, Garner RJ, Riddle MM, et al. 1983. Augmentation of murine natural killer cell activity by manganese chloride. *Toxicol Appl Pharmacol* 70:7-17.
- Rollin HB, Mathee A, Levin J, et al. 2005. Blood manganese concentrations among first-grade schoolchildren in two South African cities. *Environ Res* 97(1):93-99.
- Rollin HB, Mathee A, Levin J, et al. 2007. Examining the association between blood manganese and lead levels in schoolchildren in four selected regions of South Africa. *Environ Res* 103(2):160-167.
- *Rope SK, Arthur WJ, Craig TH, et al. 1988. Nutrient and trace elements in soil and desert vegetation of southern Idaho. *Environ Monit Assess* 10:1-24.
- +*Rose C, Butterworth RF, Zayed J, et al. 1999. Manganese deposition in basal ganglia structures results from both portal-systemic shunting and liver dysfunction. *Gastroenterology* 117:640-644.

9. REFERENCES

- Rosenberg C, Siltanen H. 1979. Residues of mancozeb and ethylenethiourea in grain samples. *Bull Environ Contam Toxicol* 22:475-478.
- +*Rosenstock HA, Simons DG, Meyer JS. 1971. Chronic manganism: Neurologic and laboratory studies during treatment with levodopa. *J Am Med Assoc* 217:1354-1358.
- +*Rossander-Hulten L, Brune M, Sandstrom B, et al. 1991. Competitive inhibition of iron absorption by manganese and zinc in humans. *Am J Clin Nutr* 54:152-156.
- *Roth JA. 2006. Homeostatic and toxic mechanisms regulating manganese uptake, retention, and elimination. *39:45-57.*
- Roth JA, Feng L, Walowitz J, et al. 2000. Manganese-induced rat pheochromocytoma (PC12) cell death is independent of caspase activation. *J Neurosci Res* 61:162-171.
- Roth JA, Horbinski C, Higgins D, et al. 2002. Mechanisms of manganese-induced rat pheochromocytoma (PC12) cell death and cell differentiation. *Neurotoxicology* 23:147-157.
- Rovetta F, Catalani S, Steinberg N, et al. 2007. Organ-specific manganese toxicity: A comparative in vitro study on five cellular models exposed to MnCl₂. *Toxicol In Vitro* 21:284-292.
- *RTECS. 2007. Manganese. Registry of Toxic Effects on Chemical Substances. National Institute of Occupational Safety and Health. MDL Information Systems, Inc. May 8, 2008.
- Ruitjen MWMM, Sallé HJA, Verberk MM, et al. 1994. Effect of chronic mixed pesticide exposure on peripheral and autonomic nerve function. *Arch Environ Health* 49:188-195.
- *Rükgauer M, Klein J, Kruse-Jarres JD. 1997. Reference values for the trace elements copper, manganese, selenium, and zinc in the serum/plasma of children, adolescents, and adults. *J Trace Elements Med Biol* 11:92-98.
- *Ruoff W. 1995. Relative bioavailability of manganese ingested in food or water. In: Proceedings: Workshop on the bioavailability and oral toxicity of manganese, Omni Netherland Plaza, August 30-31, 1994. Lexington, MA: Eastern Research Group, Inc., 65-75.
- Sadek AH, Rauch R, Schulz PE. 2003. Parkinsonism due to manganism in a welder. *Int J Toxicol* 22:393-401.
- +*Sahni V, Leger Y, Panaro L, et al. 2007. Case report: A metabolic disorder presenting as pediatric manganism. *Environ Health Perspect* 115:1776-1779.
- +*Sakurai H, Nishida M, Yoshimura T, et al. 1985. Partition of divalent and total manganese in organs and subcellular organelles of MnCl₂-treated rats studied by ESR and neutron activation analysis. *Biochim Biophys Acta* 841:208-214.
- +*Salehi F, Krewski D, Mergler D, et al. 2003. Bioaccumulation and locomotor effects of manganese phosphate/sulfate mixture in Sprague-Dawley rats following subchronic (90 day) inhalation exposure. *Toxicol Appl Pharmacol* 191:264-271.

9. REFERENCES

- +*Salehi F, Normandin L, Krewski D, et al. 2006. Neuropathology, tremor and electromyogram in rats exposed to manganese phosphate/sulfate mixture. *J Appl Toxicol* 26:419-426.
- Saltzman BE, Cholak J, Schafer LJ, et al. 1985. Concentrations of six metals in the air of eight cities. *Environ Sci Technol* 19:328-333.
- +*Sánchez DJ, Domingo JL, Llobet JM, et al. 1993. Maternal and developmental toxicity of manganese in the mouse. *Toxicol Lett* 69:45-52.
- +*Sandstrom B, Davidsson L, Cederblad A, et al. 1986. Manganese absorption and metabolism in man. *Acta Pharmacol Toxicol (Copenh)* 59:60-62.
- +*Sandstrom B, Davidsson L, Eriksson R, et al. 1990. Effect of long-term trace element supplementation on blood trace element levels and absorption of (75Se), (54Mn) and (65Zn). *J Trace Elem Electrolytes Health Dis* 4:65-72.
- +Sarhan MJ, Roels H, Lauwerys R. 1986. Influence of manganese on the gastrointestinal absorption of cadmium in rats. *J Appl Toxicol* 6:313-316.
- +*Saric M, Hrustic O. 1975. Exposure to airborne manganese and arterial blood pressure. *Environ Res* 10:314-318.
- +*Saric M, Lucic-Palaic S. 1977. Possible synergism of exposure to airborne manganese and smoking habit occurrence of respiratory symptoms. In: Walton WH, ed. *Inhaled particles. IV*. New York, NY: Pergamon Press, 773-779.
- +*Saric M, Markicevic A, Hrustic O. 1977. Occupational exposure to manganese. *Br J Ind Med* 34:114-118.
- Sassine M-P, Mergler D, Bowler R, et al. 2002. Manganese accentuates adverse mental health effects associated with alcohol use disorders. *Biol Psychiatry* 51:909-921.
- Savolainen K, Kurttio P, Vartiainen T, et al. 1989. Ethylenethiourea as an indicator of exposure to ethylenebisdithiocarbamate fungicides. *Arch Toxicol Suppl* 13:120-123.
- *Sax NI, Lewis RJ. 1987. Hawley's condensed chemical dictionary. 11th ed. New York, NY: Van Nostrand Reinhold Company, 727-731.
- Saxena J, Howard PH. 1977. Environmental transformation of alkylated and inorganic forms of certain metals. *Adv Microb* 21:185-226.
- +*Schaanning M, Naes K, Egeberg PK, et al. 1988. Cycling of manganese in the permanently anoxic Drammens fjord. *Marine Chemistry* 23:365-382.
- +*Schafer DF, Stephenson DV, Barak AJ, et al. 1974. Effects of ethanol on the transport of manganese by small intestine of the rat. *J Nutr* 104:101-104.
- Schaumburg HH, Herskovitz S, Cassano VA. 2006a. Occupational manganese neurotoxicity provoked by hepatitis C. (Erratum in *Neurology* 67:1902). *Neurology* 67(2):322-323.

9. REFERENCES

- Schaumburg HH, Herskovitz S, Cassano VA. 2006b. Occupational manganese neurotoxicity provoked by hepatitis C (Erratum on: Neurology 2006; 67:322-323). *Neurology* 67:1902.
- +Scheuhammer AM. 1983. Chronic manganese exposure in rats: Histological changes in the pancreas. *J Toxicol Environ Health* 12:353-360.
- +Scheuhammer AM, Cherian MG. 1983. The influence of manganese on the distribution of essential trace elements. II. The tissue distribution of manganese, magnesium, zinc, iron, and copper in rats after chronic manganese exposure. *J Toxicol Environ Health* 12(2-3):361-370.
- *Schneider JS, Decamp E, Koser AJ, et al. 2006. Effects of chronic manganese exposure on cognitive and motor functioning in non-human primates. *Brain Res* 1118(1):222-231.
- *Schnitzer M. 1969. Reactions between fulvic acid, a soil humic compound and inorganic soil constituents. *Soil Sci Soc Amer Proc* 33:75-80.
- *Schonwald S. 2004. Manganese. In: Dart RC, ed. *Medical toxicology*. 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins, 1433-1434.
- Schramm VL, Brandt M. 1986. The manganese(II) economy of rat hepatocytes. *Fed Proc* 45:2817-2820.
- *Schroeder HA, Balassa JJ, Tipton IH. 1966. Essential trace metals in man: Manganese. A study in homeostasis. *J Chron Dis* 19:545-571.
- *Schroeder WH, Dobson M, Kane DM, et al. 1987. Toxic trace elements associated with airborne particulate matter: A review. *J Air Pollut Control Assoc* 37:1267-1285.
- +*Schuler P, Oyanguren H, Maturana V, et al. 1957. Manganese poisoning: Environmental and medical study at a Chilean mine. *Ind Med Surg* 26:167-173.
- Schwab AP, Lindsay WL. 1983. The effect of redox on the solubility and availability of manganese in a calcareous soil. *Soil Sci Soc Am J* 47:217-220.
- Scott DT, McKnight DM, Voelker BM, et al. 2002. Redox processes controlling manganese fate and transport in a mountain stream. *Environ Sci Technol* 36(3):453-459.
- +*Segura-Aguilar J, Lind C. 1989. On the mechanism of the Mn³⁽⁺⁾-induced neurotoxicity of dopamine: Prevention of quinone-derived oxygen toxicity by DT diaphorase and superoxide dismutase. *Chem Biol Interact* 72:309-324.
- Sengupta A, Mense SM, Lan C, et al. 2007. Gene expression profiling of human primary astrocytes exposed to manganese chloride indicates selective effects on several functions of the cells. *Neurotoxicology* 28(3):478-489.
- Serio R, Long RA, Taylor JE, et al. 1984. The antifertility and antiadrenergic actions of thiocarbamate fungicides in laying hens. *Toxicol Appl Pharmacol* 72:333-342.
- *Setchell BP, Waites GMH. 1975. The blood-testis barrier. In: Creep RO, Astwood EB, Geiger SR, eds. *Handbook of physiology: Endocrinology V*. Washington, DC: American Physiological Society, 143-172.

9. REFERENCES

- Seth PK, Chandra SV. 1984. Neurotransmitters and neurotransmitter receptors in developing and adult rats during manganese poisoning. *Neurotoxicology* 5:67-76.
- +Seth PK, Hong JS, Kilts CD, et al. 1981. Alteration of cerebral neurotransmitter receptor function by exposure of rats to manganese. *Toxicol Lett* 9:247-254.
- +*Seth PK, Nagar N, Husain R, et al. 1973. Effects of manganese on rabbit testes. *Environ Physiol Biochem* 3:263-267.
- Shi XL, Dalal NS. 1990. The glutathionyl radical formation in the reaction between manganese and glutathione and its neurotoxic implications. *Med Hypotheses* 33:83-87.
- Shigan SA, Vitvitskaya BR. 1971. [Experimental substantiation of permissible residual concentration of potassium permanganate in drinking water.] *Gig Sanit* 36:15-18. (Russian)
- Shin YC, Kim E, Cheong HK, et al. 2007. High signal intensity on magnetic resonance imaging as a predictor of neurobehavioral performance of workers exposed to manganese. *Neurotoxicology* 28(2):257-262.
- +*Shiotsuka RN. 1984. Inhalation toxicity of manganese dioxide and a magnesium oxide-manganese dioxide mixture. Report to U.S. Army Medical Research and Development Command, Fort Detrick, Frederick, MD, by Inhalation Toxicology Facility, Medical Department.
- Shukakidze AA, Lazriev IL, Khetsuriani RG, et al. 2002. Changes in neuroglial ultrastructure in various parts of the rat brain during manganese chloride poisoning. *Neurosci Behav Physiol* 32(6):561-566.
- +*Shukakidze AA, Lazriev IL, Mitagvariya N. 2003. Behavioral impairments in acute and chronic manganese poisoning in white rats. *Neurosci Behav Physiol* 33(3):263-267.
- *Shukla GS, Chandra SV, Seth KP. 1976. Effect of manganese on the levels of DNA, RNA, DNase and RNase in cerebrum, cerebellum and rest of brain regions of rat. *Acta Pharmacol Toxicol* 39:562-569.
- +Shukla GS, Dubey MP, Chandra SV. 1980. Manganese-induced biochemical changes in growing versus adult rats. *Arch Environ Contam Toxicol* 9:383-391.
- *Shukla GS, Singh S, Chandra SV. 1978. The interaction between manganese and ethanol in rats. *Acta Pharmacol Toxicol* 43:354-362.
- Shukla Y, Antony M, Kumar S, et al. 1988. Tumour-promoting ability of mancozeb, a carbamate fungicide, on mouse skin. *Carcinogenesis* 9(8):1511-1512.
- Shukla Y, Antony M, Kumar S, et al. 1990. Carcinogenic activity of a carbamate fungicide, mancozeb, on mouse skin. *Cancer Lett* 53:191-195.
- +*Shuqin K, Haishang D, Peiyi X, et al. 1992. A report of two cases of chronic serious manganese poisoning treated with sodium para-aminosalicyclic acid. *Br J Ind Med* 49:66-69.
- Siddiqui A, Ali B, Srivastava SP. 1993. Age-related effects in the inhibition of oxidative metabolism of xenobiotics by mancozeb. *Vet Hum Toxicol* 35(1):4-6.

9. REFERENCES

- Siddiqui S, Srivastava SP, Ali B. 1990. Effect of mancozeb on hydrolytic metabolism of xenobiotics. *Res Commun Chem Pathol Pharmacol* 70(2):249-252.
- +Sierra P, Chakrabarti S, Tounkara R, et al. 1998. Bioaccumulation of manganese and its toxicity in feral pigeons (*Columba livia*) exposed to manganese oxide dust (Mn₃O₄). *Environ Res* 79:94-101.
- *Sierra P, Loranger S, Kennedy G, et al. 1995. Occupational and environmental exposure of automobile mechanics and nonautomotive workers to airborne manganese arising from the combustion of methylcyclopentadienyl manganese tricarbonyl (MMT). *Am Ind Hyg Assoc J* 56(7):713-716.
- Sikk K, Taba P, Haldre S, et al. 2007. Irreversible motor impairment in young addicts--ephedrone, manganism or both? *Acta Neurol Scand* 115(6):385-389.
- *Silbergeld EK. 1982. Current status of neurotoxicology, basic and applied. *Trends Neurosci* 5:291-294.
- Silbergeld EK. 1999. Introduction. MMT: Science and policy. *Environ Res Section A* 80:93-95.
- Sinczuk-Walczak H, Jakubowski M, Matczak W. 2001. Neurological and neurophysiological examinations of workers occupationally exposed to manganese. *Int J Occup Med Environ Health* 14(4):329-337.
- *Singh I. 1984. Induction of gene conversion and reverse mutation by manganese sulphate and nickel sulphate in *Saccharomyces cerevisiae*. *Mutat Res* 137:47-49.
- +Singh J, Husain R, Tandon SK, et al. 1974. Biochemical and histopathological alterations in early manganese toxicity in rats. *Environ Physiol Biochem* 4:16-23.
- +Singh J, Kaw JL, Zaidi SH. 1977. Early biochemical response of pulmonary tissue to manganese dioxide. *Toxicology* 8:177-184.
- +*Singh PP, Junnarkar AY. 1991. Behavioural and toxic profile of some essential trace metal salts in mice and rats. *Ind J Pharmacol* 23:153-159.
- +*Singh S, Shukla GS, Srivastava RS, et al. 1979. The interaction between ethanol and manganese in rat brain. *Arch Toxicol* 41(4):307-316.
- +*Siqueira ME, Moraes EC. 1989. Homovanillic acid (HVA) and manganese in urine of workers exposed in a ferromanganese alloy plant. *Med Lav* 80:224-228.
- +*Siqueira ME, Hirata MH, Adballa DS. 1991. Studies on some biochemical parameters in human manganese exposure. *Med Lav* 82(6):504-509.
- +Sitaramayya A, Nagar N, Chandra SV. 1974. Effect of manganese on enzymes in rat brain. *Acta Pharmacol Toxicol* 35:185-190.
- Sittig M. 1985. Handbook of toxic and hazardous chemicals and carcinogens. 2nd ed. Park Ridge, NY: Noyes Publications, 559-562.
- Sjogren B, Gustavsson P, Hogstedt C. 1990. Neuropsychiatric symptoms among welders exposed to neurotoxic metals. *Br J Ind Med* 47:704-707.

9. REFERENCES

- +*Sloot WN, Gramsbergen JP. 1994. Axonal transport of manganese and its relevance to selective neurotoxicity in the rat basal ganglia. *Brain Res* 657:124-132.
- Sly LI, Hodgkinson MC, Arunpaorojana V. 1988. Effect of water velocity on the early development of manganese-depositing biofilm in a drinking water distribution system. *FEMS Microbiol Ecol* 53:175-186.
- *Smargiassi A, Mutti A. 1999. Peripheral biomarkers of exposure to manganese. *Neurotoxicology* 20:401-406.
- +*Smargiassi A, Mergler D, Bergamaschi E, et al. 1995. Peripheral markers of catecholamine metabolism among workers occupationally exposed to manganese (Mn). *Toxicol Lett* 77:329-333.
- Smargiassi A, Takser L, Masse A, et al. 2002. A comparative study of manganese and lead levels in human umbilical cords and maternal blood from two urban centers exposed to different gasoline additives. *Sci Total Environ* 290:157-164.
- +*Smialowicz RJ, Luebke RW, Rogers RR, et al. 1985. Manganese chloride enhances natural cell-mediated immune effector cell function: Effects on macrophages. *Immunopharmacology* 9:1-11.
- +*Smialowicz RJ, Rogers RR, Riddle MM, et al. 1987. Effects of manganese, calcium, magnesium, and zinc on nickel-induced suppression of murine natural killer cell activity. *J Toxicol Environ Health* 20:67-80.
- *Smith D, Gwiazka R, Bowler R, et al. 2007. Biomarkers of Mn exposure in humans. *Am J Ind Med* 50:801-811.
- *Smith GW, Palmby AK. 1959. Flame photometric determination of lead and manganese in gasoline. *Anal Chem* 31:1798-1802.
- *Smith RA, Alexander RB, Wolman MG. 1987. Water-quality trends in the nation's rivers. *Science* 235:1607-1615.
- +Smith SE, Medlicott M, Ellis GH. 1944. Manganese deficiency in the rabbit. *Arch Biochem Biophys* 4:281-289.
- +*Smyth HF, Carpenter CP, Weil CS, et al. 1969. Range-finding toxicity data: List VII. *Am Ind Hyg Assoc J* 30:470-476.
- +*Smyth LT, Ruhf RC, Whitman NE, et al. 1973. Clinical manganism and exposure to manganese in the production and processing of ferromanganese alloy. *J Occup Med* 15:101-109.
- Snella MC. 1985. Manganese dioxide induces alveolar macrophage chemotaxis for neutrophils in vitro. *Toxicology* 34:153-159.
- Sobotka T. 1971. Comparative effects of 60-day feeding of maneb and of ethylenethiourea on thyroid electrophoretic patterns of rats. *Food Cosmet Toxicol* 9:537-540.
- Sobotka TJ, Brodie RE, Cook MP. 1972. Behavioral and neuroendocrine effects in rats of postnatal exposure to low dietary levels of maneb. *Dev Psychobiol* 5(2):137-148.

9. REFERENCES

- Sobti RC, Kaur H, Sharma M. 1987. Mutagenicity of dithiocarbamate herbicide Dithane M-45 (mancozeb). *Chromosome Inf Serv* 42:20-22.
- Soldin OP, Aschner M. 2007. Effects of manganese on thyroid hormone homeostasis: Potential links. *Neurotoxicology* 28:951-956.
- Soleo L, Difazio G, Scarselli R, et al. 1996. Toxicity of fungicides containing ethylene-bis-dithiocarbamate in serumless dissociated mesencephalic-striatal primary coculture. *Arch Toxicol* 70:678-682.
- +*Southwood T, Lamb CM, Freeman J. 1987. Ingestion of potassium permanganate crystals by a 3-yr-old boy. *Med J Aust* 146:639-640.
- +*Spadoni F, Stefani A, Morello M, et al. 2000. Selective vulnerability of pallidal neurons in the early phases of manganese intoxication. *Exp Brain Res* 138:544-551.
- +*Spahr L, Butterworth RF, Fontaine S, et al. 1996. Increased blood manganese in cirrhotic patients: Relationship to pallidal magnetic resonance signal hyperintensity and neurological symptoms. *Hepatology* 24:1116-1120.
- Spangler JG, Elsner R. 2006. Commentary on possible manganese toxicity from showering: Response to critique. *Med Hypotheses* 66:1231-1233.
- Spranger M, Schwab S, Desiderato S, et al. 1998. Manganese augments nitric oxide synthesis in murine astrocytes: A new pathogenetic mechanism in manganism? *Exp Neurol* 149:277-283.
- *SRI. 2007. Methylcyclopentadienyl manganese tricarbonyl. 2007 Directory of chemical producers. Menlo Park, CA: SRI Consulting. Access Intelligence, LLC., 739.
- +Srisuchart B, Taylor MJ, Sharma RP. 1987. Alteration of humoral and cellular immunity in manganese chloride-treated mice. *J Toxicol Environ Health* 22:91-99.
- +Srivastava VK, Chauhan SS, Srivastava PK, et al. 1990. Placental transfer of metals of coal fly ash into various fetal organs of rat. *Arch Toxicol* 64:153-156.
- *St-Pierre A, Normandin L, Carrier G, et al. 2001. Bioaccumulation and locomotor effect of manganese dust in rats. *Inhal Toxicol* 13:623-632.
- *Stanek EJ, Calabrese EJ. 1995. Daily estimates of soil ingestion in children. *Environ Health Perspect* 103:276-285.
- *Stauber JL, Florence TM, Webster WS. 1987. The use of scalp hair to monitor manganese in aborigines from Groote Eylandt. *Neurotoxicology* 8:431-435.
- Steenland K, Cedillo L, Tucker J, et al. 1997. Thyroid hormones and cytogenetic outcomes in backpack sprayers using ethylenebis(dithiocarbamate) (EBDC) fungicides in Mexico. *Environ Health Perspect* 105:1126-1130.

9. REFERENCES

- Stern RM, Berlin A, Fletcher A, et al. 1986. International conference on health hazards and biological effects of welding fumes and gases, Copenhagen, 18-21 February 1985. Summary report. *Int Arch Occup Environ Health* 57:237-246.
- Stevenson A. 1972. A simple color spot test of distinguishing between maneb, zineb, mancozeb, and selected mixtures. *J Assoc Off Anal Chem* 55(5):939-941.
- Stockl NK. 1989. [Experimental investigations of the retention of lead and other trace elements (Fe, Cu, Zn, Mn) in juvenile and adult rats exposed to different levels of alimentary lead.] Munich, Germany: Institut Fur Ernahrungsphysiologic Der Technischen Universitat Munchen [Dissertation]. DE88770330. (German)
- +Stoner GD, Shimkin MB, Troxell MC, et al. 1976. Test for carcinogenicity of metallic compounds by the pulmonary tumor response in strain A mice. *Cancer Res* 36:1744-1747.
- Storey E, Hyman BT, Jenkins B, et al. 1992. 1-Methyl-4-phenylpyridinium produces excitotoxic lesions in rat striatum as a result of impairment of oxidative metabolism. *J Neurochem* 58:1975-1978.
- +Strause LG, Hegenauer J, Saltman P, et al. 1986. Effects of long-term dietary manganese and copper deficiency on rat skeleton. *J Nutr* 116:135-141.
- *Stredrick DL, Stokes AH, Worst TJ, et al. 2004. Manganese-induced cytotoxicity in dopamine-producing cells. *Neurotoxicology* 25(4):543-553.
- Struve MF, McManus BE, Wong BA, et al. 2007. Basal ganglia neurotransmitter concentrations in rhesus monkeys following subchronic manganese sulfate inhalation. *Am J Ind Med* 50(10):772-778.
- *Stupar J, Dolinsek F. 1996. Determination of chromium, manganese, lead, and cadmium in biological samples including hair using direct electrothermal atomic absorption spectrometry. *Spectrochim Acta B* 51:665-683.
- +*Sturaro A, Parvoli G, Doretti L, et al. 1994. The influence of color, age, and sex on the content of zinc, copper, nickel, manganese, and lead in human hair. *Biol Trace Elem Res* 40:1-8.
- +*Suarez N, Walum E, Eriksson H. 1995. Cellular neurotoxicity of trivalent manganese bound to transferrin or pyrophosphate studied in human neuroblastoma (SH-SY5Y) cell cultures. *Toxicol in Vitro* 9:717-721.
- +*Subhash MN, Padmashree TS. 1991. Effect of manganese on biogenic amine metabolism in regions of the rat brain. *Food Chem Toxicol* 29:579-582.
- Subramoniam A, Agrawal D, Srivastava SP, et al. 1991. Influence of mancozeb on mitogenically responsive lipids in rat cerebrum and liver. *Indian J Exp Biol* 29(10):943-945.
- Sukandar S, Yasuda K, Tanaka M, et al. 2006. Metals leachability from medical waste incinerator fly ash: A case study on particle size comparison. *Environ Pollut* 144(3):726-735.
- +*Sumino K, Hayakawa K, Shibata T, et al. 1975. Heavy metals in normal Japanese tissues: Amounts of 15 heavy metals in 30 subjects. *Arch Environ Health* 30:487-494.

9. REFERENCES

- *Sunderman FW, Kasprzak KS, Lau TJ, et al. 1976. Effects of manganese on carcinogenicity and metabolism of nickel subsulfide. *Cancer Res* 36:1790-1800.
- Sunderman FW, Reid MC, Allpass PR, et al. 1980. Manganese inhibition of sarcoma induction by benzo(a)pyrene in Fischer rats. *Proc Am Assoc Cancer Res* 21:72.
- Sung JH, Kim CY, Yang SO, et al. 2007. Changes in blood manganese concentration and MRI T1 relaxation time during 180 days of stainless steel welding-fume exposure in Cynomolgus monkeys. *Inhal Toxicol* 19:47-55.
- Suzuki T, Tsukamoto I. 2005. Manganese-induced apoptosis in hepatocytes after partial hepatectomy. *Eur J Pharmacol* 525(1-3):48-53.
- +*Suzuki Y, Fujii N, Yano H, et al. 1978. Effects of the inhalation of manganese dioxide dust on monkey lungs. *Tokushima J Exp Med* 25(3-4):119-125.
- Suzuki Y, Mouri T, Suzuki Y et al. 1975. Study of subacute toxicity of manganese dioxide in monkeys. *Tokushima J Exp Med* 22:5-10.
- +*Svensson O, Engfeldt B, Reinholt FP, et al. 1987. Manganese rickets: A biochemical and stereologic study with special reference to the effect of phosphate. *Clin Orthop* (No. 218):302-311.
- +*Svensson O, Hjerpe A, Reinholt FP, et al. 1985. The effect of manganese ingestion, phosphate depletion, and starvation on the morphology of the epiphyseal growth plate: A stereologic study. *Clin Orthop* (No. 197):286-294.
- *Sweet CW, Vermette SJ, Landsberger S. 1993. Sources of toxic trace elements in urban air in Illinois. *Environ Sci Technol* 27(12):2502-2510.
- +*Szakmáry E, Ungvary G, Hudak A, et al. 1995. Developmental effect of manganese in rat and rabbit. *Cent Eur J Occup Environ Med* 1:149-159.
- Sziráki I, Mohanakumar KP, Rauhala P, et al. 1998. Manganese: A transition metal protects nigrostriatal neurons from oxidative stress in the iron-induced animal model of Parkinsonism. *Neuroscience* 85(4):1101-1111.
- +Sziráki I, Rauhala P, Chiueh CC. 1995. Novel protective effect of manganese against ferrous citrate-induced lipid peroxidation and nigrostriatal neurodegeneration in vivo. *Brain Res* 698(1-2):285-287.
- *Sziráki I, Rauhala P, Kon Koh K, et al. 1999. Implications for atypical antioxidative properties of manganese in iron-induced brain lipid peroxidation and copper-dependent low density lipoprotein conjugation. *Neurotoxicology* 20:455-466.
- Takahashi RN, Rogerio R, Zanin M. 1989. Maneb enhances MPTP neurotoxicity in mice. *Res Commun Chem Pathol Pharmacol* 66(1):167-170.
- Takeda A, Ishiwatari S, Okada S. 1999. Manganese uptake into rat brain during development and aging. *J Neurosci Res* 56(1):93-98.
- Takeda A, Kodama Y, Ishiwatari S, et al. 1998b. Manganese transport in the neural circuit of rat CNS. *Brain Res Bull* 45(2):149-152.

9. REFERENCES

- *Takeda A, Sawashita J, Okada S. 1994. Localization in rat brain of the trace metals, zinc and manganese, after intracerebroventricular injection. *Brain Res* 658:252-254.
- Takeda A, Sawashita J, Okada S. 1998a. Manganese concentration in rat brain: manganese transport from the peripheral tissues. *Neurosci Lett* 242:45-48.
- *Takeda A, Sotogaku N, Oku N. 2002. Manganese influences the levels of neurotransmitters in synapses in rat brain. *Neuroscience* 114(3):669-674.
- *Takeda A, Sotogaku N, Oku N. 2003. Influence of manganese on the release of neurotransmitters in rat striatum. *Brain Res* 965:279-282.
- Takser L, Lafond J, Bouchard M, et al. 2004a. Manganese levels during pregnancy and at birth: Relation to environmental factors and smoking in a Southwest Quebec population. *Environ Res* 95(2):119-125.
- Takser L, Mergler D, de Grosbois S, et al. 2004b. Blood manganese content at birth and cord serum prolactin levels. *Neurotoxicol Teratol* 26(6):811-815.
- Takser L, Mergler D, Hellier G, et al. 2003. Manganese, monoamine metabolite levels at birth, and child psychomotor development. *Neurotoxicology* 24(4-5):667-674.
- Talbot V. 1983. Lead and other trace metals in the sediments and selected biota of Princess Royal Harbour, Albany, Western Australia. *Environmental Pollution* 5:35-49.
- Tamm C, Sabri F, Ceccatelli S. 2008. Mitochondrial-mediated apoptosis in neural stem cells exposed to manganese. *Toxicol Sci* 101(2):310-323.
- Tanaka S. 1994. Manganese and its compounds. In: Zenz C, Dickerson OB, Horvath EP, eds. *Occupational medicine*. 3rd edition. St. Louis, MO: Mosby, 542-548.
- +*Tanaka S, Lieben J. 1969. Manganese poisoning and exposure in Pennsylvania. *Arch Environ Health* 19:674-684.
- Tang LC. 1984. A personal and scientific biography of Dr. George C. Cotzias. *Neurotoxicology* 5:5-12.
- +*Tapin D, Kennedy G, Lambert J, et al. 2006. Bioaccumulation and locomotor effects of manganese sulfate in Sprague-Dawley rats following subchronic (90 days) inhalation exposure. *Toxicol Appl Pharmacol* 211(2):166-174.
- Tarohda T, Ishida Y, Kawai K, et al. 2005. Regional distributions of manganese, iron, copper, and zinc in the brains of 6-hydroxydopamine-induced parkinsonian rats. *Anal Bioanal Chem* 383(2):224-234.
- *Taylor HE. 1982. A summary of methods for water-quality analysis of specific species. In: Minear RA, Keith LH, eds. *Water analyis*. Vol. 1. Inorganic Species. Part 1. New York, NY: Academic Press, 235-273.
- *Taylor MD, Erikson KM, Dobson AW, et al. 2006. Effects of inhaled manganese on biomarkers of oxidative stress in the rat brain. *Neurotoxicology* 27(5):788-797.

9. REFERENCES

- *Teeguarden JG, Dorman DC, Covington TR, et al. 2007a. Pharmacokinetic modeling of manganese. I. Dose dependencies of uptake and elimination. *J Toxicol Environ Health A* 70:1493-1504.
- *Teeguarden JG, Dorman DC, Nong A, et al. 2007b. Pharmacokinetic modeling of manganese. II. Hepatic processing after ingestion and inhalation. *J Toxicol Environ Health A* 70:1505-1514.
- *Teeguarden JG, Gearhart J, Clewell HJ, et al. 2007c. Pharmacokinetic modeling of manganese. III. Physiological approaches accounting for background and tracer kinetics. *J Toxicol Environ Health A* 70:1515-1526.
- *Ter Haar GL, Griffing ME, Brandt M, et al. 1975. Methylcyclopentadienyl manganese tricarbonyl as an antiknock: Composition and fate of manganese exhaust products. *J Air Pollut Control Assoc* 25:858-860.
- Tessier DM, Pascal LE. 2006. Activation of MAP kinases by hexavalent chromium, manganese and nickel in human lung epithelial cells. *Toxicol Lett* 167(2):114-121.
- Tholey G, Ledig M, Kopp P, et al. 1988. Levels and sub-cellular distribution of physiologically important metal ions in neuronal cells cultured from chick embryo cerebral cortex. *Neurochem Res* 13:1163-1167.
- *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.
- +*Thompson TN, Klaassen CD. 1982. Presystemic elimination of manganese in rats. *Toxicol Appl Pharmacol* 64:236-243.
- *Thompson K, Molina RM, Donaghey T, et al. 2006. The influence of high iron diet on rat lung manganese absorption. *Toxicol Appl Pharmacol* 210(1-2):17-23.
- *Thompson K, Molina RM, Donaghey T, et al. 2007. Olfactory uptake of manganese requires DMT1 and is enhanced by anemia. *FASEB J* 21(1):223-230.
- *Thompson SE, Burton CA, Quinn DJ, et al. 1972. Concentration factors of chemical elements in edible aquatic organisms. Lawrence Livermore Laboratory, Bio-Medical Division, University of California, Livermore, CA.
- Thomsen HS, Svendsen O, Klastrup S. 2004. Increased manganese concentration in the liver after oral intake. *Acad Radiol* 11(1):38-44.
- *Thomson AB, Olatumbosun D, Valberg LS, et al. 1971. Interrelation of intestinal transport system for manganese and iron. *J Lab Clin Med* 78:642-655.
- +*Tichy M, Cikrt M. 1972. Manganese transfer into the bile in rats. *Arch Toxikol* 29:51-58.
- Tiffany-Castiglioni E, Qian Y. 2001. Astroglia as metal depots: Molecular mechanisms for metal accumulation, storage and release. *Neurotoxicology* 22:577-592.
- *Tinggi U, Reilly C, Patterson C. 1997. Determination of manganese and chromium in food by atomic absorption spectrometry after wet digestion. *Food Chem* 60:123-128.

9. REFERENCES

*Tipton IH, Cook MJ. 1963. Trace elements in human tissue. Part II. Adult subjects from the United States. *Health Phys* 9:103-145.

Tisue GT, Hsiung T-M. 1987. Manganese speciation in a southeastern USA reservoir. 194th American Chemical Society National Meeting. *Abstr Pap Am Chem Soc* 194:231.

Tjalkens RB, Liu X, Mohl B, et al. 2008. The peroxisome proliferator-activated receptor- γ agonist 1,1-bis(3'-indolyl)-1-(p-trifluoromethylphenyl)methane suppresses manganese-induced production of nitric oxide in astrocytes and inhibits apoptosis in cocultured PC12 cells. *J Neurosci Res* 86:618-629.

Tjalkens RB, Zoran MJ, Mohl B, et al. 2006. Manganese suppresses ATP-dependent intercellular calcium waves in astrocyte networks through alteration of mitochondrial and endoplasmic reticulum calcium dynamics. *Brain Res* 1119:210-219.

*Tjälve H, Henriksson J. 1999. Uptake of metals in the brain via olfactory pathways. *Neurotoxicology* 20:181-195.

+*Tjälve H, Henriksson J, Tallkvist J, et al. 1996. Uptake of manganese and cadmium from the nasal mucosa into the central nervous system via olfactory pathways in rats. *Pharmacol Toxicol* 79:347-356.

+*Toft KG, Friisk GA, Skotland T. 1997a. Mangafodipir trisodium injection, a new contrast medium for magnetic resonance imaging: Detection and quantification of the parent compound MnDPDP and metabolites in human plasma by high performance liquid chromatography. *J Pharm Biomed Anal* 15:973-981.

+*Toft KG, Hustvedt SO, Grant D, et al. 1997b. Metabolism and pharmacokinetics of MnDPDP in man. *Acta Radiol* 38:677-689.

+*Toft KG, Hustvedt SO, Grant D, et al. 1997c. Metabolism of mangafodipir trisodium (MnDPDP), a new contrast medium for magnetic resonance imaging, in beagle dogs. *Eur J Drug Metab Pharmacokinet* 22:65-72.

Toft KG, Kindberg GM, Skotland T. 1997d. Mangafodipir trisodium injection, a new contrast medium for magnetic resonance imaging: In vitro metabolism and protein binding studies of the active component MnDPDP in human blood. *J Pharm Biomed Anal* 15:98.

Torrente M, Colomina MT, Domingo JL. 2002. Effects of prenatal exposure to manganese on postnatal development and behavior in mice: Influence of maternal restraint. *Neurotoxicol Teratol* 24(2):219-225.

+*Torrente M, Colomina MT, Domingo JL. 2005. Behavioral effects of adult rats concurrently exposed to high doses of oral manganese and restraint stress. *Toxicology* 211(1-2):59-69.

+*Tran TT, Cowanadisai W, Crinella FM, et al. 2002b. Effect of high dietary manganese intake of neonatal rats on tissue mineral accumulation, striatal dopamine levels, and neurodevelopmental status. *Neurotoxicology* 23:635-643.

+*Tran TT, Chowanadisai W, Lonnerdal B, et al. 2002a. Effects of neonatal dietary manganese exposure on brain dopamine levels and neurocognitive functions. *Neurotoxicology* 23(4-5):645-651.

9. REFERENCES

- +*Treinen KA, Gray TJB, Blazak WF. 1995. Developmental toxicity of mangafodipir trisodium and manganese chloride in Sprague-Dawley rats. *Teratol* 52:109-115.
- *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.
- Trivedi N, Kakkar R, Srivastava MK, et al. 1993. Effect of oral administration of fungicide-mancozeb on thyroid gland of rat. *Indian J Exp Biol* 31:564-566.
- *Tsalev DL. 1983. Manganese. In: Tsalev DL. Atomic absorption spectrometry in occupational and environmental health practice. Vol. II. Determination of individual elements. Boca Raton, FL: CRC Press, Inc.
- Tsalev DL, Langmyhr FJ, Gunderson N. 1977. Direct atomic absorption spectrometric determination of manganese in whole blood of unexposed individuals and exposed workers in a Norwegian manganese alloy plant. *Bull Environ Contam Toxicol* 17:660-666.
- Tsuchiya H, Shima S, Kurita H, et al. 1987. Effects of maternal exposure to six heavy metals on fetal development. *Bull Environ Contam Toxicol* 38:580-587.
- *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.
- Tulikoura I, Vuori E. 1986. Effect of total parenteral nutrition on the zinc, copper, and manganese status of patients with catabolic disease. *Scand J Gastroenterol* 21:421-427.
- *Turner RR, Lindberg SE, Coe JM. 1985. Comparative analysis of trace metal accumulation in forest ecosystems. 5th International Conference on Heavy Metals in the Environment 1:356-358.
- Tutterova M, Mosinger B, Vavrinkova H. 1988. Heart injury in the calcium paradox: The effect of manganese. *Biomed Biochim Acta* 47:57-64.
- *Uchino A, Noguchi T, Nomiyama K, et al. 2007. Manganese accumulation in the brain: MR imaging. *Neuroradiology* 49:715-720.
- *Ulitzur S, Barak M. 1988. Detection of genotoxicity of metallic compounds by the bacterial bioluminescence test. *J Biol Chem* 2:95-99.
- +*Ulrich CE, Rinehart W, Brandt M. 1979a. Evaluation of the chronic inhalation toxicity of a manganese oxide aerosol. III - Pulmonary function, electromyograms, limb tremor, and tissue manganese data. *Am Ind Hyg Assoc J* 40:349-353.
- +*Ulrich CE, Rinehart W, Busey W. 1979b. Evaluation of the chronic inhalation toxicity of a manganese oxide aerosol. I. Introduction, experimental design, and aerosol generation methods. *Am Ind Hyg Assoc J* 40:238-244.
- +*Ulrich CE, Rinehart W, Busey W, et al. 1979c. Evaluation of the chronic inhalation toxicity of a manganese oxide aerosol. II - Clinical observations, hematology, clinical chemistry and histopathology. *Am Ind Hyg Assoc J* 40:322-329.

9. REFERENCES

*Umeda M, Nishimura M. 1979. Inducibility of chromosomal aberrations by metal compounds in cultured mammalian cells. *Mutat Res* 67:221-229.

Underwood EJ. 1971. Manganese. In: *Trace elements in human and animal nutrition*. 3rd ed. New York, NY: Academic Press, 177-203.

Underwood EJ. 1981. The incidence of trace element deficiency diseases. *Phil Trans R Soc Lond B* 294:3-8.

*U.S. DHEW. 1970. Community water supply study. Analysis of national survey findings. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Bureau of Water Hygiene. NTIS No. PB-214982.

U.S. DOT. 1996. U.S. Department of Transportation. 1996 North American emergency response guidebook.

*USGS. 1964. Public water supplies of the 100 largest cities in the United States, 1962. Washington, DC: U.S. Geological Survey. Water-supply paper 1812.

USGS. 1998. Mineral industry surveys: Manganese: 1997 Annual review. U.S. Geological Survey, U.S. Department of the Interior.

*USGS. 2001. Manganese recycling in the United States in 1998. U.S. Geological Survey. Open file report 01-304. <http://pubs.usgs.gov/of/2001/of01-304/of01-304.pdf>. April 07, 2008.

*USGS. 2007. 2005 Minerals yearbook. Manganese. U.S. Geological Survey. <http://minerals.usgs.gov/minerals/pubs/commodity/manganese/mangamyb05.pdf>. April 07, 2008.

*USGS. 2008. Manganese. Mineral commodity summaries. U.S. Geological Survey, 104-105. <http://minerals.usgs.gov/minerals/pubs/commodity/manganese/mcs-2008-manga.pdf>. April 07, 2008.

*Utter MF. 1976. The biochemistry of manganese. *Med Clin North Am* 60:713-727.

Vaccari A, Saba P, Mocci I, et al. 1999. Dithiocarbamate pesticides affect glutamate transport in the brain synaptic vesicles. *J Pharmacol Exp Ther* 288:1-5.

*Vahlquist A, Rask L, Peterson PA, et al. 1975. The concentrations of retinol-binding protein, prealbumin, and transferrin in the sera of newly delivered mothers and children of various ages. *Scand J Clin Lab Invest* 35:569-375.

*Valencia R, Mason JM, Woodruff RC, et al. 1985. Chemical mutagenesis testing in *Drosophila*. III. Results of 48 coded compounds tested for the National Toxicology Program. *Environ Mutagen* 7:325-348.

*Valentin H, Schiele R. 1983. Manganese. In: Alessio L, et al. Human biological monitoring of industrial chemicals series. Luxembourg: Commission of the European Communities. EUR-8476-EN. NTIS No. PB86-217908.-gov doc

+van der Elst L, Colet JM, Muller RN. 1997. Spectroscopic and metabolic effects of MnCl₂ and MnDPDP on the isolated and perfused rat heart. *Invest Radiol* 32:581-588.

9. REFERENCES

- Vasudev V, Krishnamurthy NB. 1994. In vivo cytogenetic analyses of the carbamate pesticides Dithane M-45 and Baygon in mice. *Mutat Res* 323:133-135.
- *Venugopal B, Luckey TD. 1978. Toxicity of group VII metals. In: *Metal toxicity in mammals. 2. Chemical toxicity of metals and metalloids*. New York, NY: Plenum Press, 262-268.
- *Verity MA. 1999. Manganese toxicity: A mechanistic hypothesis. *Neurotoxicology* 20:489-498.
- Verschoyle RD, Wolf CR, Dinsdale D. 1993. Cytochrome P450 2B isoenzymes are responsible for the pulmonary bioactivation and toxicity of butylated hydroxytoluene, O,O,S-trimethylphosphorothioate and methylcyclopentadienyl manganese tricarbonyl. *J Pharmacol Exp Ther* 266(2):958-963.
- Verschueren K. 1983. *Handbook of environmental data on organic chemicals*. 2nd ed. New York: Van Nostrand Reinhold Company, 806.
- Versieck J, Cornelis R. 1980. Normal levels of trace elements in human blood plasma or serum. *Anal Chim Acta* 116:217-254.
- *Versieck J, Vanballenberghe L, De Kese A. 1988. More on determination of manganese in biological materials [Letter]. *Clin Chem* 34:1659-1660.
- Versieck J, Vanballenberghe L, De Kesel A, et al. 1987. Accuracy of biological trace-element determination. *Biol Trace Elem Res* 12:45-54.
- +Vescovi A, Gebbia M, Cappelletti G, et al. 1989. Interactions of manganese with human brain glutathione-S-transferase. *Toxicology* 57:183-191.
- *Veysseyre A, Vondevelde K, Ferrari C, Bourton C, et al. 1998. Searching for manganese pollution from MMT anti-knock gasoline additives in snow from central Greenland. *Sci Total Environ* 221:149-158.
- +*Vezér T, Kurunczi A, Naray M, et al. 2007. Behavioral effects of subchronic inorganic manganese exposure in rats. *Am J Ind Med* 50:841-852.
- +*Vezér T, Papp A, Hoyk Z, et al. 2005. Behavioral and neurotoxicological effects of subchronic manganese exposure in rats. *Environ Toxicol Pharmacol* 19:797-810.
- Vidal L, Alfonso M, Campos F, et al. 2005. Effects of manganese on extracellular levels of dopamine in rat striatum: An analysis in vivo by brain microdialysis. *Neurochem Res* 30(9):1147-1154.
- *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(2):476-483.
- +*Vieregge P, Heinzel B, Korf G, et al. 1995. Long term exposure to manganese in rural well water has no neurological effects. *Can J Neurol Sci* 22:286-289.
- Vigeh M, Yokoyama K, Ramezanadeh F, et al. 2008. Blood manganese concentrations and intrauterine growth restriction. *Reprod Toxicol* 25:219-223.

9. REFERENCES

- +*Vitarella D, Wong BA, Moss OR, et al. 2000. Pharmacokinetics of inhaled manganese phosphate in male Sprague-Dawley rats following subacute (14-day) exposure. *Toxicol Appl Pharmacol* 163:279-285.
- +*Waalkes MP, Klaassen CD. 1985. Concentration of metallothione in major organs of rats after administration of various metals. *Fundam Appl Toxicol* 5:473-477.
- Waddell J, Steenbock H, Hart EB. 1931. Growth and reproduction on milk diets. *J Nutr* 4:53-65.
- Wagner A, Boman J. 2003. Biomonitoring of trace elements in muscle and liver tissue of freshwater fish. *Spectrochim Acta, Part B* 58:2215-2226.
- Walash MI, Belal F, Metwally ME, et al. 1993. Spectrophotometric determination of maneb, zineb, and their decomposition products in some vegetables and its application to kinetic studies after greenhouse treatment. *Food Chem* 47:411-416.
- *Wallace L, Slonecker T. 1997. Ambient air concentrations of fine (PM_{2.5}) manganese in U.S. national parks and in California and Canadian cities: The possible impact of adding MMT to unleaded gasoline. *J Air Waste Manag Assoc* 47:642-652.
- *Walton AP, Wei GT, Liang Z, et al. 1991. Laser-excited atomic fluorescence in a flame as a high-sensitivity detector for organomanganese and organotin compounds following separation by high-performance liquid chromatography. *Anal Chem* 63:232-240.
- +*Wang C, Gordon PB, Hustvedt SO, et al. 1997. MR imaging properties and pharmacokinetics of MnDPDP in healthy volunteers. *Acta Radiologica* 38:665-676.
- *Wang D, Du X, Zheng W. 2008. Alteration of saliva and serum concentrations of manganese, copper, zinc, cadmium and lead among career welders. *Toxicol Lett* 176:40-47.
- +Wang JD, Huang CC, Hwang YH, et al. 1989. Manganese induced Parkinsonism: An outbreak due to an unrepaired ventilation control system in a ferromanganese smelter. *Br J Ind Med* 46:856-859.
- Wang RG, Zhu XZ. 2003. Subtoxic concentration of manganese synergistically potentiates 1-methyl-4-phenylpyridinium-induced neurotoxicity in PC12 cells. *Brain Res* 961(1):131-138.
- Wang X, Yang Y, Wang X, et al. 2006. The effect of occupational exposure to metals on the nervous system function in welders. *J Occup Health* 48:100-106.
- *Warner BB, Papes R, Heile M, et al. 1993. Expression of human MnSOD in Chinese hamster ovary cells confers protection from oxidant injury. *Am J Physiol* 264:L598-L605.
- +*Wassermann D, Wassermann M. 1977. The ultra structure of the liver cell in subacute manganese administration. *Environ Res* 14:379-390.
- +*Wasserman GA, Liu X, Parvez F, et al. 2006. Water manganese exposure and children's intellectual function in Araihazar, Bangladesh. *Environ Health Perspect* 114(1):124-129.
- Weast RC, ed. 1985. CRC handbook of chemistry and physics. Boca Raton, FL: CRC Press, Inc., B-112-B-114, B-214.

9. REFERENCES

- +*Weber S, Dorman DC, Lash LH, et al. 2002. Effects of manganese (Mn) on the developing rat brain: Oxidative-stress related endpoints. *Neurotoxicology* 23(2):169-175.
- +Webster WS, Valois AA. 1987. Reproductive toxicology of manganese in rodents, including exposure during the postnatal period. *Neurotoxicology* 8:437-444.
- +*Wedekind KJ, Titgemeyer EC, Twardock AR, et al. 1991. Phosphorus, but not calcium, affects manganese absorption and turnover in chicks. *J Nutr* 121:1776-1786.
- *Wedler FC. 1994. Biochemical and nutritional role of manganese: An overview. In: Klimis-Tavantzis DJ, ed. *Manganese in health and disease*. Boca Raton, LA: CRC Press, 1-36.
- *Weiner WJ, Nausieda PA, Klawans HL. 1977. Effect of chlorpromazine on central nervous system concentrations of manganese, iron, and copper. *Life Sci* 20:1181-1186.
- Weiss B. 1999. Manganese in the context of an integrated risk and decision process. *Neurotoxicology* 20:519-526.
- *Weiss B. 2006. Economic implications of manganese neurotoxicity. *Neurotoxicology* 27:362-368.
- +Wennberg A, Hagman M, Johansson L. 1992. Preclinical neurophysiological signs of Parkinsonism in occupational manganese exposure. *Neurotoxicology* 13:271-274.
- +*Wennberg A, Iregren A, Struwe G, et al. 1991. Manganese exposure in steel smelters a health hazard to the nervous system. *Scand J Work Environ Health* 17:255-262.
- Weppelman RM, Long RA, Van Iderstine A, et al. 1980. Antifertility effects of dithiocarbamates in laying hens. *Biol Reprod* 23:40-46.
- *West JR, Smith HW, Chasis H. 1948. Glomerular filtration rate, effective renal blood flow, and maximal tubular excretory capacity in infancy. *J Pediatr* 32:10-18.
- +*Whitlock CM, Amuso SJ, Bittenbender JB. 1966. Chronic neurological disease in two manganese steel workers. *Am Ind Hyg Assoc J* 27:454-459.
- *WHO. 1973. Manganese. Trace elements in human nutrition. Report of a WHO committee. Geneva, Switzerland: World Health Organization, 34-36.
- *WHO. 1981. Environmental health criteria 17: Manganese. World Health Organization, Geneva, Switzerland.
- *WHO. 1984a. Guidelines for drinking water quality. Vol. 1. Recommendations. World Health Organization, Geneva, Switzerland, 7, 52, 79, 82.
- WHO. 1984b. Guidelines for drinking water quality. Vol. 2. Health criteria and other supporting information. World Health Organization, Geneva, Switzerland, 275-278.
- *WHO. 1986. Diseases caused by manganese and its toxic compounds. Early detection of occupational diseases, World Health Organization, Geneva, Switzerland, 69-73.

9. REFERENCES

- *WHO. 1987. Manganese. In: Air quality guidelines for Europe. European Series No. 23. Copenhagen, Denmark: World Health Organization Regional Office for Europe, 262-271.
- WHO. 1991. Manganese. Commission of the European Communities; International Programme on Chemical Safety (IPCS) World Health Organization, Geneva, Switzerland.
- *WHO. 1999. Concise international chemical assessment document 12. Manganese and its compounds. Geneva: United Nations Environment Programme. International Labour Organisation. World Health Organization. <http://whqlibdoc.who.int/publications/1999/924153012X.pdf>. August 04, 2008.
- *WHO. 2000a. Air quality guidelines. 2nd ed. Geneva, Switzerland: World Health Organization. <http://www.euro.who.int/Document/AIQ/AirQualRepMtg.pdf>. March 08, 2006.
- *WHO. 2000b. Air quality guidelines for Europe. 2nd ed. World Health Organization. <http://www.euro.who.int/document/e71922.pdf>. August 02, 2008.
- *WHO. 2001. Manganese. In: Air quality guidelines. 2nd ed. World Health Organization. http://www.euro.who.int/document/aiq/6_8manganese.pdf. August 02, 2008.
- *WHO. 2004a. 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.
- *WHO. 2004b. Manganese in drinking-water. Background document for development of WHO guidelines for drinking-water quality. World Health Organization. WHO/SDE/WSH/03.04/104. http://www.who.int/water_sanitation_health/dwq/chemicals/manganese.pdf. April 07, 2008.
- *WHO/IPSC. 1999. Concise International Chemical Assessment Document 12: Manganese and its compounds. World Health Organization/Inter-Organization Programme for the Sound Management of Chemicals.
- *Widdowson EM, Dickerson JWT. 1964. Chemical composition of the body. In: Comar CL, Bronner F, eds. Mineral metabolism: An advanced treatise. Volume II: The elements Part A. New York, NY: Academic Press, 1-247.
- +*Widdowson EM, Chan H, Harrison GE, et al. 1972. Accumulation of Cu, Zn, Mn, Cr and Co in the human liver before birth. Biol Neonate 20:360-367.
- +*Wieczorek H, Oberdörster G. 1989a. Effects of selected chelating agents on organ distribution and excretion of manganese after inhalation exposure to $^{54}\text{MnCl}_2$. I. Injection of chelating agents. Pol J Occup Med 2:261-267.
- +*Wieczorek H, Oberdörster G. 1989b. Effects of chelating on organ distribution and excretion of manganese after inhalation exposure to $^{54}\text{MnCl}_2$. II: Inhalation of chelating agents. Pol J Occup Med 2:389-396.
- *Wieczorek H, Oberdörster G. 1989c. Kinetics of inhaled $^{54}\text{MnCl}_2$ aerosols: Influence of inhaled concentrations. Polish J Occup Med 2(3):248-260.
- *Wilgus HS, Patton AR. 1939. Factors affecting manganese utilization in the chicken. J Nutr 18:35-45.

9. REFERENCES

- +*Wilson DC, Tubman R, Bell N, et al. 1991. Plasma manganese, selenium and glutathione peroxidase levels in the mother and newborn infant. *Early Hum Dev* 26:223-226.
- *Windholz M, ed. 1983. *The Merck index: An encyclopedia of chemicals, drugs and biologicals*. 10th ed. Rahway, NJ: Merck and Company, Inc., 816-818.
- Wirth JJ, Rossano MG, Daly DC, et al. 2007. Ambient manganese exposure is negatively associated with human sperm motility and concentration. *Epidemiology* 18(2):270-273.
- Wise K, Manna S, Barr J, et al. 2004. Activation of activator protein-1 DNA binding activity due to low level manganese exposure in pheochromocytoma cells. *Toxicol Lett* 147(3):237-244.
- Witholt R, Gwiazda RH, Smith DR. 2000. The neurobehavioral effects of subchronic manganese exposure in the presence and absence of pre-parkinsonism. *Neurotoxicol Teratol* 22:851-861.
- +*Witschi HP, Hakkinen PJ, Kehrer JP. 1981. Modification of lung tumor development in A/J mice. *Toxicology* 21:37-45.
- Witzleben CL, Boyer JL, Ng OC. 1987. Manganese-bilirubin cholestasis. Further studies in pathogenesis. *Lab Invest* 56:151-154.
- +*Wolters EC, Huang CC, Clark C, et al. 1989. Positron emission tomography in manganese intoxication. *Ann Neurol* 26:647-651.
- *Wong GHW, Goeddel DV. 1988. Induction of manganous superoxide dismutase by tumor necrosis factor: possible protective mechanism. *Science* 242:941-944.
- *Wong PK. 1988. Mutagenicity of heavy metals. *Bull Environ Contam Toxicol* 40:597-603.
- Wongwit W, Kaewkungwal J, Chantachum Y, et al. 2004. Comparison of biological specimens for manganese determination among highly exposed welders. *Southeast Asian J Trop Med Public Health* 35(3):764-769.
- Woodrow JE, Seiber JN, Fitzell D. 1995. Analytical method for the dithiocarbamate fungicides ziram and mancozeb in air: Preliminary field results. *J Agric Food Chem* 43:1524-1529.
- +*Woolf A, Wright R, Amarasinghe C, et al. 2002. A child with chronic manganese exposure from drinking water. *Environ Health Perspect* 110:613-616.
- Worley CG, Bombick D, Allen JW, et al. 2002. Effects of manganese on oxidative stress in CATH.a cells. *Neurotoxicology* 23(2):159-164.
- *Wright RO, Amarasinghe C, Woolf AD, et al. 2006. Neuropsychological correlates of hair arsenic, manganese, and cadmium levels in school-age children residing near a hazardous waste site. *Neurotoxicology* 27(2):210-216.
- +*Wu W, Zhang Y, Zhang F, et al. 1996. [Studies on the semen quality in workers exposed to manganese and electric welding.] *Chin J Prev Med* 30:266-268. (Chinese)
- +*Yamada M, Ohno S, Okayasu I, et al. 1986. Chronic manganese poisoning: A neuropathological study with determination of manganese distribution in the brain. *Acta Neuropathol (Berl)* 70:273-278.

9. REFERENCES

- Yang H, Sun Y, Zheng X. 2007. Manganese-induced apoptosis in rat myocytes. *J Biochem Mol Toxicol* 21(3):94-100.
- *Yen HC, Oberley TD, Vichitbandha S, et al. 1996. The protective role of superoxide dismutase against adriamycin-induced cardiac toxicity in transgenic mice. *J Clin Invest* 98:1253-1260.
- +*Yiin SJ, Lin TH, Shih TS. 1996. Lipid peroxidation in workers exposed to manganese. *Scand J Work Environ Health* 22:381-386.
- *Yokel RA. 2002. Brain uptake, retention, and efflux of aluminum and manganese. *Environ Health Perspect Suppl* 110:699-704.
- Yokel RA, Crossgrove JS, Bukaveckas BL. 2003. Manganese distribution across the blood-brain barrier. II. Manganese efflux from the brain does not appear to be carrier mediated. *Neurotoxicology* 24(1):15-22.
- Yokel RA, Lasley SM, Dorman DC. 2006. The speciation of metals in mammals influences their toxicokinetics and toxicodynamics and therefore human health risk assessment. *J Toxicol Environ Health B Crit Rev* 9:63-85.
- +Yong VW, Perry TL, Godolphin WJ, et al. 1986. Chronic organic manganese administration in the rat does not damage dopaminergic nigrostriatal neurons. *Neurotoxicology* 7:19-24.
- Yoshikawa K, Matsumoto M, Hamanaka M, et al. 2003. A case of manganese induced parkinsonism in hereditary haemorrhagic telangiectasia. *J Neurol Neurosurg Psychiatry* 74(9):1312-1314.
- *Young T, Myers JE, Thompson ML. 2005. The nervous system effects of occupational exposure to manganese--measured as respirable dust--in a South African manganese smelter. *Neurotoxicology* 26(6):993-1000.
- Yu IJ, Park JD, Park ES, et al. 2003. Manganese distribution in brains of Sprague-Dawley rats after 60 days of stainless steel welding-fume exposure. *Neurotoxicology* 24(6):777-785.
- +Zaidi SH, Dogra RK, Shanker R, et al. 1973. Experimental infective manganese pneumoconiosis in guinea pigs. *Environ Res* 6:287-297.
- *Zakour RA, Glickman BW. 1984. Metal-induced mutagenesis in the lacI gene of Escherichia coli. *Mutat Res* 126:9-18.
- Zaprianov ZK, Tsalev DL, Gheorghieva RB, et al. 1985. New toxicokinetic exposure tests based on atomic absorption analysis of toenails. I. Manganese. *Proceedings of the 5th International Conference on Heavy Metals in the Environment* 2:95-97.
- Zavanella T, Arias E, Pacces Zaffroni N. 1979. Preliminary study on the carcinogenic activity of the fungicide manganese ethylenebisdithiocarbamate in the adult newt, Triturus cristatus carnifex. *Tumori* 65:163-167.
- Zavanella T, Zaffaroni NP, Arias E. 1984. Abnormal limb regeneration in adult newts exposed to the fungicide Maneb 80: A histological study. *J Toxicol Environ Health* 13:735-745.

9. REFERENCES

- *Zayed J, Gérin M, Loranger S, et al. 1994. Occupational and environmental exposure of garage workers and taxi drivers to airborne manganese arising from the use of methylcyclopentadienyl manganese tricarbonyl in unleaded gasoline. *Am Ind Hyg Assoc J* 55(1):53-58.
- Zayed J, Guessous A, Lambert J, et al. 2003. Estimation of annual Mn emissions from MMT source in the Canadian environment and the Mn pollution index in each province. *Sci Total Environ* 312:147-154.
- *Zayed J, Mikhail M, Loranger S, et al. 1996. Exposure of taxi drivers and office workers to total respirable manganese in an urban environment. *Am Ind Hyg Assoc J* 57(4):376-380.
- *Zayed J, Thibault C, Gareau L, et al. 1999a. Airborne manganese particulates and methylcyclopentadienyl manganese tricarbonyl (MMT) at selected outdoor sites in Montreal. *Neurotoxicology* 20:151-157.
- *Zayed J, Vyskocil A, Kennedy G. 1999b. Environmental contamination and human exposure to manganese: Contribution of methylcyclopentadienyl manganese tricarbonyl in unleaded gasoline. *Int Arch Occup Environ Health* 72(1):7-13.
- +*Zhang G, Liu D, He P. 1995. [Effects of manganese on learning abilities in school children.] *Chung Hua Yu Fang I Hsueh Tsa Chih* 29:156-158.
- Zhang P, Hatter A, Liu B. 2007. Manganese chloride stimulates rat microglia to release hydrogen peroxide. *Toxicol Lett* 173(2):88-100.
- Zhang S, Fu J, Zhou Z. 2004. In vitro effect of manganese chloride exposure on reactive oxygen species generation and respiratory chain complexes activities of mitochondria isolated from rat brain. *Toxicol In Vitro* 18(1):71-77.
- Zhang S, Zhou Z, Fu J. 2003a. Effect of manganese chloride exposure on liver and brain mitochondria function in rats. *Environ Res* 93(2):149-157.
- Zhang J, Fitsanakis VA, Gu G, et al. 2003b. Manganese ethylene-bis-dithiocarbamate and selective dopaminergic neurodegeneration in rat: A link through mitochondrial dysfunction. *J Neurochem* 84(2):336-346.
- *Zheng W, Kim H, Zhao Q. 2000. Comparative toxicokinetics of manganese chloride and methylcyclopentadienyl manganese tricarbonyl (MMT) in Sprague-Dawley rats. *Toxicol Sci* 54:295-301.
- +*Zheng W, Ren S, Graziano JH. 1998. Manganese inhibits mitochondrial aconitase: A mechanism of manganese neurotoxicity. *Brain Res* 799:334-342.
- Zheng W, Zhao Q, Slavkovich V, et al. 1999. Alteration of iron homeostasis following chronic exposure to manganese in rats. *Brain Res* 833:125-132.
- Zidenberg-Cherr S, Hurley LS, Lönnedal B, et al. 1985. Manganese deficiency: Effects on susceptibility to ethanol toxicity in rats. *J Nutr* 115:460-467.
- *Ziegler EE, Edwards BB, Jensen RL, et al. 1978. Absorption and retention of lead by infants. *Pediatr Res* 12(1):29-34.

9. REFERENCES

Zielhuis RL, del Castilho P, Herber RF, et al. 1978. Levels of lead and other metals in human blood: Suggestive relationships, determining factors. Environ Health Perspect 25:103-109.

Zielinski WL, Fishbein L. 1966. Gas chromatography of metallic derivatives of ethylenebis (dithiocarbamic acids). J Chromatogr 23:302-304.

+*Zlotkin SH, Buchanan BE. 1986. Manganese intakes in intravenously fed infants: Dosages and toxicity studies. Biol Trace Element Res 9:271-279.

Zoni S, Albini E, Lucchini R. 2007. Neuropsychological testing for the assessment of manganese neurotoxicity: A review and a proposal. Am J Ind Med 50:812-830.

Zwingmann C, Leibfritz D, Hazell AS. 2003. Energy metabolism in astrocytes and neurons treated with manganese: Relation among cell-specific energy failure, glucose metabolism, and intercellular trafficking using multinuclear NMR-spectroscopic analysis. J Cereb Blood Flow Metab 23(6):756-771.

*Zwingmann C, Leibfritz D, Hazell AS. 2004. Brain energy metabolism in a sub-acute rat model of manganese neurotoxicity: An ex vivo nuclear magnetic resonance study using [1-13C]glucose. Neurotoxicology 25(4):573-587.

*Zwingmann C, Leibfritz D, Hazell AS. 2007. NMR spectroscopic analysis of regional brain energy metabolism in manganese neurotoxicity. Glia 55(15):1610-1617.