

9. REFERENCES

- 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.
- Abdelouahab N, Huel G, Suvorov A, et al. 2010. Monoamine oxidase activity in placenta in relation to manganese, cadmium, lead, and mercury at delivery. *Neurotoxicol Teratol* 32(2):256-261.
- 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.
- 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.
- 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.
- Allercreutz H. 1995. Phytoestrogens: Epidemiology and a possible role in cancer protection. *Environ Health Perspect Suppl* 103(7):103-112.
- Agency for Toxic Substances and Disease Registry. 1989. 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. 2000. Toxicological profile for manganese (update). Atlanta, GA: Agency for Toxic Substances and Disease Registry. A-3 to A-5.

* Not cited in text

9. REFERENCES

- 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.
- 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, Reinoso-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.
- 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.
- Anderson JG, Fordahl SC, Cooney PT, et al. 2009. Extracellular norepinephrine, norepinephrine receptor and transporter protein and mRNA levels are differentially altered in the developing rat brain due to dietary iron deficiency and manganese exposure. *Brain Res* 1281:1-14.
- 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.

9. REFERENCES

- 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.
- Archibald FS, Tyree C. 1987. Manganese poisoning and the attack of trivalent manganese upon catecholamines. *Arch Biochem Biophys* 256:638-650.
- 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.
- 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 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, 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.
- 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.
- Avila DS, Gubert P, Fachinetto R, et al. 2008. Involvement of striatal lipid peroxidation and inhibition of calcium influx into brain slices in neurobehavioral alterations in a rat model of short-term oral exposure to manganese. *Neurotoxicology* 29(6):1062-1068.
- *Ayotte P, Plaa GL. 1985. Hepatic subcellular distribution of manganese in manganese and manganese-bilirubin induced cholestasis. *Biochem Pharmacol* 34:3857-3865.

9. REFERENCES

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.

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.

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.

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

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.

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, Lönnardal 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.

9. REFERENCES

- Bernard A, Hermans C. 1997. Biomonitoring of early effects on the kidney or the lung. *Sci Total Environ* 199:205-211.
- 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, 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.
- *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, 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.
- Bird ED, Anton AH, Bullock B. 1984. The effect of manganese inhalation on basal ganglia dopamine concentrations in rhesus monkey. *Neurotoxicology* 5:59-65.
- 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.
- 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.
- *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.

9. REFERENCES

- 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.
- 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.
- Bouchard MF, Sauve S, Barbeau B, et al. 2011. Intellectual impairment in school-age children exposed to manganese from drinking water. *Environ Health Perspect* 119(1):138-143.
- Bowler RM, Mergler D, Sassine MP, et al. 1999. Neuropsychiatric effects of manganese on mood. *Neurotoxicology* 20:367-378.
- *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.
- 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.

9. REFERENCES

- *Britton AA, Cotzias GC. 1966. Dependence of manganese turnover on intake. *Am J Physiol* 211:203-206.
- Brna P, Gordon K, Dooley JM, et al. 2011. Manganese toxicity in a child with iron deficiency and polycythemia. *J Child Neurol* 26(7):891-894.
- *Brock AA, Chapman SA, Ulman EA, et al. 1994. Dietary manganese deficiency decreases rat hepatic arginase activity. *J Nutr* 124:340-344.
- 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.
- *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.
- 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.
- Calne DB, Chu NS, Huang CC, et al. 1994. Manganism and idiopathic Parkinsonism: Similarities and differences. *Neurology* 44:1583-1586.
- 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, 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.
- Carter JC, Miller WJ, Neathery MW, et al. 1974. Manganese metabolism with oral and intravenous ⁵⁴Mn 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.

9. REFERENCES

- 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. 1991. Environmental manganese toxicity. *Med J Austral* 154:291-292.
- Cawte J, Hams G, Kilburn C. 1987. Manganism in a neurological ethnic complex in northern Australia [Letter]. *Lancet* 1(8544):1257.
- 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.
- 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.
- 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.
- 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.

9. REFERENCES

- Chia SE, Gan SL, Chua LH, et al. 1995. Postural stability among manganese exposed workers. *Neurotoxicology* 16:519-526.
- 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 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.
- Claus Henn B, Ettinger AS, Schwartz J, et al. 2010. Early postnatal blood manganese levels and children's neurodevelopment. *Epidemiology* 21(4):433-439.
- Claus Henn B, Schnaas L, Ettinger AS, et al. 2011. Associations of early childhood manganese and lead co-exposure with neurodevelopment. *Environ Health Perspect* [Epub ahead of print].
- *Clay RJ, Morris JB. 1989. Comparative pneumotoxicity of cyclopentadienyl manganese tricarbonyl and methylcyclopentadienyl manganese tricarbonyl. *Toxicol Appl Pharmacol* 98:434-443.
- Clewell HJ, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1(4):111-131.
- Clewell HJ, Crump KS. 1999. Benchmark dose analysis of the neurological effects of manganese 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.
- 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 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.
- Cotzias GC. 1958. Manganese in health and disease. *Physiol Rev* 38:503-533.

9. REFERENCES

- 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, Papavailiou 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.
- *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.
- 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.
- 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 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.

9. REFERENCES

- 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, Lönnadal 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, Lönnadal 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.
- 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.
- 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* 2:215-218.
- *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.
- Deschamps FJ, Guillamot M, Raux S. 2001. Neurological effects in workers exposed to manganese. *J Occup Environ Med* 43(2):127-132.
- 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.
- Deskin R, Bursian SJ, Edens FW. 1980. Neurochemical alterations induced by manganese chloride in neonatal rats. *Neurotoxicology* 2:65-73.

9. REFERENCES

- 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, Migheli 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, Migheli 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.
- *Dieter HH, Rotard W, Simon J, et al. 1992. Manganese in natural mineral waters from Germany. *Die Nahrung* 5:488-484.
- Diez-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. 1987. The physiopathologic significance of manganese in brain: Its relation to schizophrenia and neurodegenerative disorders. *Neurotoxicology* 8:451-462.
- 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.

9. REFERENCES

- 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.
- 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.
- 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, Poremba 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.

9. REFERENCES

- Egyed M, Wood GC. 1996. Risk assessment for combustion products of the gasoline additive MMT in Canada. *Sci Total Environ* 189/190:11-20.
- Ejima A, Imamura T, Nakamura S, et al. 1992. Manganese intoxication during total parenteral nutrition [Letter]. *Lancet* 339:426.
- 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.
- 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, 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 interpresentation. Washington, DC: U.S. Environmental Protection Agency, Office of Water Planning and Standards. EPA 4404008. PB81219685.
- EPA. 1981. Ethyl Corp: Denial of application for fuel wiaver; summary of decision. U.S. Environmental Protection Agency. *Fed Regist* 46:58360.
- 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.

9. REFERENCES

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.

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. 1988. Recommendations for the documentation of biological values for use in risk assessment. Cincinnati, OH: U. S. Environmental Protection Agency. PB88179874.

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. 1994. Reevaluation of inhalation health risks associated with methylcyclopentadienyl manganese tricarbonyl (MMT) in gasoline. U.S. Environmental Protection Agency. EPA600R94062.

*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.

9. REFERENCES

EPA. 2005. Toxic chemical release inventory reporting forms and instructions: Revised 2004 version. Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986). U.S. Environmental Protection Agency. Office of Environmental Information. EPA260B05001.

EPA. 2006a. 2006 Edition of the drinking water standards and health advisories. Washington, DC: 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.

EPA. 2011. Emissions inventory. U.S. Environmental Protection Agency. <http://www.epa.gov/ttn/chief/eiinformation.html>. November 28, 2011.

9. REFERENCES

- 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.
- 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. 2007. Manganese inhalation by Rhesus monkeys is associated with brain regional changes in biomarkers of neurotoxicity. *Toxicol Sci* 97(2):459-466.
- Erikson KM, Dorman DC, Lash LH, et al. 2008. Duration of airborne-manganese exposure in rhesus monkeys is associated with brain regional changes in biomarkers of neurotoxicity. *Neurotoxicology* 29(3):377-385.
- 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.
- 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.
- Farias AC, Cunha A, Benko CR, et al. 2010. Manganese in children with attention-deficit/hyperactivity disorder: Relationship with methylphenidate exposure. *J Child Adolesc Psychopharmacol* 20(2):113-118.
- 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, 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.
- 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.
- 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.
- *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.
- *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.

9. REFERENCES

- 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.
- Fore H, Morton RA. 1952. Manganese in rabbit tissues. *Biochem J* 51:600-603.
- Francis AJ. 1985. Anaerobic microbial dissolution of toxic metals in subsurface environments. Upton, NY: Brookhaven National Laboratory. BNL-36571.
- Freeland-Graves JH, Bales CW, Behmardi F. 1987. Manganese requirements of humans. Nutritional bioavailability of manganese. American Chemical Society, 90-104.
- 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, 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.
- Garcia SJ, Gellein K, Syversen T, et al. 2006. A manganese-enhanced diet alters brain metals and transporters in the developing rat. *Toxicol Sci* 92(2):516-525.

9. REFERENCES

- 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. 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.
- 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.
- *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.
- 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.

9. REFERENCES

- 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, 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.
- *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.
- 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.

9. REFERENCES

- 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.
- Gruden N, Matausic S. 1989. Some factors influencing cadmium-manganese interaction in adult rats. *Bull Environ Contam Toxicol* 43:101-106.
- 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.
- Gupta SK, Murthy RC, Chandra SV. 1980. Neuromelanin in manganese-exposed primates. *Toxicol Lett* 6:17-20.
- 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.
- Haddad CM, Shannon MW, Winchester JF, eds. 1998. In: Clinical management of poisoning and drug overdose. 3rd ed. Philadelphia, PA: WB Saunders, 796-797.
- 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.
- 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.
- 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.

9. REFERENCES

- 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.
- 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.
- 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. 2007. 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, 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 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).
- 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.
- Health Canada. 2010. Human health risk assessment for inhaled manganese. Ottawa, Ontario: Health Canada.
- 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, 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.

9. REFERENCES

- Hernandez-Bonilla D, Schilmann A, Montes S, et al. 2011. Environmental exposure to manganese and motor function of children in Mexico. *Neurotoxicology* 32(5):615-621.
- Hinderer RK. 1979. Toxicity studies of methylcyclopentadienyl manganese tricarbonyl (MMT). *Am Ind Hyg Assoc J* 40:164-167.
- Hiney JK, Srivastava VK, Dees WL. 2011. Manganese induces IGF-1 and cyclooxygenase-2 gene expressions in the basal hypothalamus during prepubertal female development. *Toxicol Sci* 121(2):389-396.
- 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.
- 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.
- HSDB. 2008. Manganese. Hazardous Substances Data Bank. National Library of Medicine. <http://toxnet.nlm.nih.gov>. April 17, 2008.
- *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.
- 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.
- 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

- Hysell DK, Moore W, Stara JF, et al. 1974. Oral toxicity of methylcyclopentadienyl manganese tricarbonyl (MMT) in rats. *Environ Res* 7:158-168.
- 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.
- *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.
- 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. 2011. Manganese. Integrated Risk Information System. Washington, DC: U.S. Environmental Protection Agency. <http://www.epa.gov/iris/subst/index.html>. November 30, 2011.
- 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.
- 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.
- 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.

9. REFERENCES

- 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 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 ^{54}Mn 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.
- 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.
- 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.

9. REFERENCES

- 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.
- Kanematsu N, Hara M, Kada T. 1980. Rec assay and mutagenicity studies on metal compounds. *Mutat Res* 77:109-116.
- 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).
- Kawamura R, Ikuta H, Fukuzumi S, et al. 1941. Intoxication by manganese in well water. *Kitasato Arch Exp Med* 18:145-171.
- 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, 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.
- Kent C. 1998. Basics of toxicology. New York: John Wiley and Sons, 90.
- Kern CH, Smith DR. 2011. Preweaning Mn exposure leads to prolonged astrocyte activation and lasting effects on the dopaminergic system in adult male rats. *Synapse* 65(6):532-544.
- Kern CH, Stanwood GD, Smith DR. 2010. Preweaning manganese exposure causes hyperactivity, disinhibition, and spatial learning and memory deficits associated with altered dopamine receptor and transporter levels. *Synapse* 64(5):363-378.
- *Khan KN, Andress JM, Smith PF. 1997. Toxicity of subacute intravenous manganese chloride administration in beagle dogs. *Toxicol Pathol* 25:344-350.
- 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.
- Kilburn CJ. 1987. Manganese, malformations and motor disorders: Findings in a manganese-exposed population. *Neurotoxicology* 8:421-429.
- Kim Y, Bowler RM, Abdelouahab N, et al. 2011. Motor function in adults of an Ohio community with environmental manganese exposure. *Neurotoxicology* 32(5):606-614.

9. REFERENCES

- Kim Y, Kim BN, Hong YC, et al. 2009. Co-exposure to environmental lead and manganese affects the intelligence of school-aged children. *Neurotoxicology* 30(4):564-571.
- Kim Y, Kim JW, Ito K, et al. 1999. Idiopathic Parkinsonism with superimposed manganese exposure: Utility of positron emission tomography. *Neurotoxicology* 20:249-252.
- Klaassen CD. 1974. Biliary excretion of manganese in rats, rabbits, and dogs. *Toxicol Appl Pharmacol* 29:458-468.
- 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.
- *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.
- 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.
- 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.

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.
- 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, 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.
- 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.
- 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.
- Laitung JK, Mercer DM. 1983. Manganese absorption through a burn. *Burns Incl Therm Inj* 10:145-146.
- Larsen LE, Grant D. 1997. General toxicology of MnDPDP. *Acta Radiol* 38:770-779.
- 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.

9. REFERENCES

- 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.
- Lazrishvili IL, Shukakidze AA, Chkhartishvili NN, et al. 2009. Morphological changes and manganese content in the brains of rat pups subjected to subchronic poisoning with manganese chloride. *Neurosci Behav Physiol* 39(1):7-12.
- 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, 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.
- 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.
- 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.
- 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.
- 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.
- Livingston AL. 1978. Forage plant estrogens. *J Toxicol Environ Health* 4(2-3):301-324.
- 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.
- 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, 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.

9. REFERENCES

- 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.
- 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.
- 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.
- 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.
- Lydén A, Larsson B, Lindquist NG. 1984. Melanin affinity of manganese. *Acta Pharmacol Toxicol* 55:133-138.
- 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.
- *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.
- 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.
- 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.
- *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.
- 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.
- McGinley PA, Morris JB, Clay RJ, et al. 1987. Disposition and toxicity of methylcyclopentadienyl manganese tricarbonyl in the rat. *Toxicol Lett* 36:137-145.
- MDNR. 1990. Written communication regarding contaminant levels in water at hazardous waste sites. Jefferson City, MO: Missouri Department of Natural Resources.
- *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. 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.

9. REFERENCES

- 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-Filho JA, Novaes Cde O, Moreira JC, et al. 2011. Elevated manganese and cognitive performance in school-aged children and their mothers. *Environ Res* 111(1):156-163.
- 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.
- 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.
- 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.
- Molina RM, Phattanarudee S, Kim J, et al. 2011. Ingestion of Mn and Pb by rats during and after pregnancy alters iron metabolism and behavior in offspring. *Neurotoxicology* 32(4):413-422.
- 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

- 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.
- Moreno JA, Yeomans EC, Streifel KM, et al. 2009. Age-dependent susceptibility to manganese-induced neurological dysfunction. *Toxicol Sci* 112(2):394-404.
- 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.
- 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.
- 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.
- 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, 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.
- 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.
- 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.

9. REFERENCES

- 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.
- 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.
- 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.
- 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. 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.
- 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.

9. REFERENCES

- 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.
- *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.
- 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, Taylor MD, Clewell HJ, et al. 2009. Manganese tissue dosimetry in rats and monkeys: Accounting for dietary and inhaled Mn with physiologically based pharmacokinetic modeling. *Toxicol Sci* 108(1):22-34.
- 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.
- 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.

9. REFERENCES

- 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. 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.
- Oberly TJ, Piper CE, McDonald DS. 1982. Mutagenicity of metal salts in the L5178Y mouse lymphoma assay. *J Toxicol Environ Health* 9:367-376.
- 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.
- *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. 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.
- 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.
- OTA. 1990. Neurotoxicity: Identifying and controlling poisons of the nervous system. Washington, DC: Office of Technology Assessment. OTABA438.

9. REFERENCES

- 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.
- 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.
- 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 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.
- 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.
- 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.
- 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.
- 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.

9. REFERENCES

- 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.
- 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.
- 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.
- *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.
- 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.
- 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.
- 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.

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.
- Rasmuson A. 1985. Mutagenic effects of some water-soluble metal compounds in a somatic eye-color test system in *Drosophila melanogaster*. *Mutat Res* 157:157-162.
- 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.
- 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, Wakan 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 autos burning (methylcyclopentadienyl) manganese tricarbonyl-added gasolines usine XANES spectroscopy. *Environ Sci Technol* 34:950-958.
- 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.
- Riojas-Rodriguez H, Solis-Vivanco R, Schilmann A, et al. 2010. Intellectual function in Mexican children living in a mining area and environmentally exposed to manganese. *Environ Health Perspect* 118(10):1465-1470.
- Rivera-Mancia S, Montes S, Mendez-Armenta M, et al. 2009. Morphological changes of rat astrocytes induced by liver damage but not by manganese chloride exposure. *Metab Brain Dis* 24(2):243-255.
- 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.

9. REFERENCES

- 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, 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.
- 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.
- 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*.
- RTECS. 2007. Manganese. Registry of Toxic Effects on Chemical Substances. National Institute of Occupational Safety and Health. MDL Information Systems, Inc. May 8, 2008.
- 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.
- Sahni V, Leger Y, Panaro L, et al. 2007. Case report: A metabolic disorder presenting as pediatric manganism. *Environ Health Perspect* 115:1776-1779.

9. REFERENCES

- 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.
- 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.
- 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.
- Sax NI, Lewis RJ. 1987. Hawley's condensed chemical dictionary. 11th ed. New York, NY: Van Nostrand Reinhold Company, 727-731.
- 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.
- *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.

9. REFERENCES

- 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.
- 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.
- Schroeter JD, Nong A, Yoon M, et al. 2011. Analysis of manganese tracer kinetics and target tissue dosimetry in monkeys and humans with multi-route physiologically based pharmacokinetic models. *Toxicol Sci* 120(2):481-498.
- 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.
- 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.
- 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.
- *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.
- 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, 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.

9. REFERENCES

- 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.
- *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.
- Silbergeld EK. 1982. Current status of neurotoxicology, basic and applied. *Trends Neurosci* 5:291-294.
- 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.
- 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.
- 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.
- 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.

9. REFERENCES

- 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.
- Solis-Vivanco R, Rodriguez-Agudelo Y, Riojas-Rodriguez H, et al. 2009. Cognitive impairment in an adult Mexican population non-occupationally exposed to manganese. *Environ Toxicol Pharmacol* 8(2):172-178.
- 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 AH, Spangler JG. 2009. Groundwater manganese and infant mortality rate by county in North Carolina: An ecological analysis. *Ecohealth* 6(4):596-600.
- 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.

9. REFERENCES

- Standridge JS, Bhattacharya A, Succop P, et al. 2008. Effect of chronic low level manganese exposure on postural balance: A pilot study of residents in southern Ohio. *J Occup Environ Med* 50(12):1421-1429.
- 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.
- *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.
- *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.
- 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.
- 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.
- Summers MJ, Summers JJ, White TF, et al. 2011. The effect of occupational exposure to manganese dust and fume on neuropsychological functioning in Australian smelter workers. *J Clin Exp Neuropsychol* 33(6):692-703.
- Sunderman FW, Kasprzak KS, Lau TJ, et al. 1976. Effects of manganese on carcinogenicity and metabolism of nickel subsulfide. *Cancer Res* 36:1790-1800.
- 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.
- 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.

9. REFERENCES

- 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, 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.
- 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, 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.
- Tanaka S, Lieben J. 1969. Manganese poisoning and exposure in Pennsylvania. *Arch Environ Health* 19:674-684.
- 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.
- 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.
- 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.

9. REFERENCES

- 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.
- 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 KJ, Molina RM, Donaghey T, et al. 2011. Manganese uptake and distribution in the brain after methyl bromide-induced lesions in the olfactory epithelia. *Toxicol Sci* 120(1):163-172.
- 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.
- Thomson AB, Olatunbosun 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.
- 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.
- Tipton IH, Cook MJ. 1963. Trace elements in human tissue. Part II. Adult subjects from the United States. *Health Phys* 9:103-145.
- 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.

9. REFERENCES

- 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.
- 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.
- Treinen KA, Gray TJB, Blazak WF. 1995. Developmental toxicity of mangafodipir trisodium and manganese chloride in Sprague-Dawley rats. *Teratol* 52:109-115.
- TRI09. 2011. 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/>. September 15, 2011.
- 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.
- 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.
- 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.
- 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.
- Umeda M, Nishimura M. 1979. Inducibility of chromosomal aberrations by metal compounds in cultured mammalian cells. *Mutat Res* 67:221-229.

9. REFERENCES

- 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.
- 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. 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/manganyb05.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.
- 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.
- 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.
- Versieck J, Vanballenberghe L, De Kese A. 1988. More on determination of manganese in biological materials [Letter]. *Clin Chem* 34:1659-1660.
- *Vescovi A, Gebbia M, Cappelletti G, et al. 1989. Interactions of manganese with human brain glutathione-S-transferase. *Toxicology* 57:183-191.
- Veysseire 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.

9. REFERENCES

- 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.
- 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.
- 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.
- 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.
- 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.
- Wasserman GA, Liu X, Parvez F, et al. 2011. Arsenic and manganese exposure and children's intellectual function. *Neurotoxicology* 32(4):450-457.
- 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.

9. REFERENCES

- 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. 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.
- 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.
- 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. 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.

9. REFERENCES

- 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.
- 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.
- Witschi HP, Hakkinen PJ, Kehrer JP. 1981. Modification of lung tumor development in A/J mice. *Toxicology* 21:37-45.
- 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.

9. REFERENCES

- Woolf A, Wright R, Amarasiriwardena C, et al. 2002. A child with chronic manganese exposure from drinking water. *Environ Health Perspect* 110:613-616.
- Wright RO, Amarasiriwardena 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.
- 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.
- *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.
- Yoon M, Nong A, Clewell HJ, et al. 2009a. Evaluating placental transfer and tissue concentrations of manganese in the pregnant rat and fetuses after inhalation exposures with a PBPK model. *Toxicol Sci* 112(1):44-58.
- Yoon M, Nong A, Clewell HJ, et al. 2009b. Lactational transfer of manganese in rats: Predicting manganese tissue concentration in the dam and pups from inhalation exposure with a pharmacokinetic model. *Toxicol Sci* 112(1):23-43.
- Yoon M, Schroeter JD, Nong A, et al. 2011. Physiologically based pharmacokinetic modeling of fetal and neonatal manganese exposure in humans: Describing manganese homeostasis during development. *Toxicol Sci* 122(2):297-316.
- 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.
- *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.
- 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.

9. REFERENCES

- 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.
- 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.
- Ziegler EE, Edwards BB, Jensen RL, et al. 1978. Absorption and retention of lead by infants. *Pediatr Res* 12(1):29-34.
- Zlotkin SH, Buchanan BE. 1986. Manganese intakes in intravenously fed infants: Dosages and toxicity studies. *Biol Trace Element Res* 9:271-279.
- 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.