

9. REFERENCES

- Abou-Arab AAK, Kawther MS, El Tantawy ME, et al. 1999. Quantity estimation of some contaminants in commonly used medicinal plants in the Egyptian market. *Food Chem* 67(4):357-363.
- ACGIH. 1986. Documentation of the threshold limit values and biological exposure indices. 5th ed. Cincinnati, OH: American Conference of Governmental Industrial Hygienists, 575.
- ACGIH. 1990. Threshold limit values and biological exposure indices for 1990-1991. Cincinnati, OH: American Conference of Governmental and Industrial Hygienists, 1550-1559.
- *ACGIH. 2003. Tin. In: Threshold limit values for chemical substances and physical agents and biological exposure indices. Cincinnati, OH: American Conference of Governmental Industrial Hygienists, 56.
- Adams ME, Swanson G. 1996. Tins neurotoxins supplement 1996. Cambridge, UK: Elsevier Trends Journals, 36.
- Adeeko A, Li D, Trasler JM, et al. 2002. Exposure of dams to tributyltin has gender-specific effects on gonadal gene expression profiles of the fetuses. *Biol Reprod* 66:221-222.
- *Adeeko A, Li D, Forsyth DS, et al. 2003. Effects of *in utero* tributyltin chloride exposure in the rat on pregnancy outcome. *Toxicol Sci* 74(2):407-415.
- *Adinolfi M. 1985. The development of the human blood-CSF-brain barrier. *Dev Med Child Neurol* 27:532-537.
- *Adlercreutz H. 1995. Phytoestrogens: Epidemiology and a possible role in cancer protection. *Environ Health Perspect Suppl* 103(7):103-112.
- *Agency for Toxic Substances and Disease Registry. 1989. Decision guide for identifying substance-specific data needs related to toxicological profiles; Notice. *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.
- *Alam MS, Husain R, Seth PK, et al. 1993. Age and sex related behavioral changes induced by dibutyltin-dilaurate in rats. *Bull Environ Contam Toxicol* 50(2):286-292.
- *Aldrich. 1988. Catalog handbook of fine chemicals. Milwaukee, WI: Aldrich Chemical Company, 1473, 1505.
- *Aldrich. 2003-2004. Handbook of fine chemicals and laboratory equipment. Aldrich Chemical Company, 1298, 1809, 1825, 1873.

* Cited in text

9. REFERENCES

- *Aldridge WN, Verschoyle RD, Thompson CA, et al. 1987. The toxicity and neuropathology of dimethylethyltin and methylidioethyltin in rats. *Neuropathol Appl Neurobiol* 13:55-69.
- Alessandri B, FitzGerald RE, Schaeppi U, et al. 1994. The use of an unbaited tunnel maze in neurotoxicology: I. Trimethyltin-induced brain lesions. *Neurotoxicology* 15(2):349-358.
- Alessio L, Dell'Orto A. 1988. Biological monitoring of tin. In: Clarkson TW, ed. *Biological monitoring of toxic chemicals*. New York, NY: Plenum Press, 419-425.
- Aleu FP, Katzman R, Terry RD. 1963. Fine structure and electrolyte analyses of cerebral edema induced by alkyl tin intoxication. *J Neuropathol Exp Neurol* 22(3):403-413.
- *Ali SF, Cranmer JM, Goad PT, et al. 1983. Trimethyltin induced changes of neurotransmitter levels and brain receptor binding in the mouse. *Neurotoxicology* 4:29-36.
- Allen S, Simpson MG, Stonard MD, et al. 1994. Induction of trimethyltin neurotoxicity by dietary administration. *Neurotoxicology* 15(3):651-654.
- Ally AI, Vieira L, Reuhl KR. 1986. Trimethyltin as a selective adrenal chemosympatholytic agent *in vivo*: Effect precedes both clinical and histopathological evidence of toxicity. *Toxicology* 40:215-229.
- *Altman PL, Dittmer DS. 1974. In: *Biological handbooks: Biology data book*. Vol. III. 2nd ed. Bethesda, MD: Federation of American Societies for Experimental Biology, 1987-2008, 2041.
- *Alzieu C. 1998. Tributyltin: Case study of a chronic contaminant in the coastal environment. *Ocean Coast Manag* 40:23-36.
- Alzieu C. 2000. Environmental impact of TBT: The French experience. *Sci Total Environ* 258:99-102.
- *Amouroux D, Tessier E, Donard OFX. 2000. Volatilization of organotin compounds from estuarine and coastal environments. *Environ Sci Technol* 34:988-995.
- *Andersen ME, Krishnan K. 1994. Relating *in vitro* to *in vivo* exposures with physiologically based tissue dosimetry and tissue response models. In: Salem H, ed. *Animal test alternatives: Refinement, reduction, replacement*. New York: Marcel Dekker, Inc., 9-25.
- *Andersen KE, Petri M. 1982. Occupational irritant contact folliculitis associated with triphenyl tin fluoride (TPTF) exposure. *Contact Dermatitis* 8:173-177.
- *Andersen ME, Clewell HJ III, Gargas ML, et al. 1987. Physiologically based pharmacokinetics and the risk assessment process for methylene chloride. *Toxicol Appl Pharmacol* 87:185-205.
- *Anderson BA, Unger MA, Moore KA. 2002. Fate of tributyltin in a created tidal wetland. *Environ Toxicol Chem* 21(6):1176-1183.
- Andersson H, Luthman J, Lindqvist E. 1995. Time-course of trimethyltin effects on the monoaminergic systems of the rat brain. *Neurotoxicology* 16(2):201-210.
- Andersson H, Wetmore C, Lindqvist E, et al. 1997. Trimethyltin exposure in the rat induces delayed changes in brain-derived neurotrophic factor, fos and heat shock protein 10. *Neurotoxicology* 18:147-159.

9. REFERENCES

- Anger JP, Anger F, Delabarre I, et al. 1985. Thermal degradation of dibutyltin fluoride (DBTF) and pulmonary toxicity of its combustion products in rats and guinea pigs. Part 2. Acute, short-term toxicity of gaseous effluents formed during DBTF thermolysis. *J Toxicol Clin Exp* 5:171-183.
- *Angerer J, Schaller KH. 1988. Digestion procedures for the determination of metals in biological samples. In: *Analysis of hazardous substances in biological materials*. Vol. 2. Weinheim, FRG: VCH, 1-30.
- AOAC. 1984a. Fentin (triphenyltin) in pesticide formulations: Gas chromatographic method. In: *AOAC official methods of analysis*, 90-91.
- AOAC. 1984b. Tin in food: Atomic absorption spectrophotometric method. In: *AOAC official methods of analysis*, 474.
- *AOAC. 1990a. Fentin in pesticide formulations: Potentiometric titration method. In: Helrich K, ed. *Official methods of analysis of the Association of Official Analytical Chemists*. Arlington, VA: Association of the Official Analytical Chemists, Inc., 156-157.
- *AOAC. 1990b. Tin in canned foods. In: Helrich K, ed. *Official methods of analysis of the Association of Official Analytical Chemists*. Arlington, VA: Association of the Official Analytical Chemists, Inc., 270-271.
- *AOAC. 1994a. Fentin (triphenyltin) in pesticide formulations: Gas chromatographic method. *AOAC official methods of analysis*, 90-91.
- *AOAC. 1994b. Tin in food: Atomic absorption spectrophotometric method. *AOAC official methods of analysis*, 474.
- Aou S, Kubo K, Ogata R, et al. 2001. Two-generation study of tributyltin chloride in rats: effects on sexual dimorphic behavior and brain weight. *Environ Sci (Tokyo)* 8:151-152.
- APHA. 1989a. Metals-flame atomic absorption spectrometry, 3111B. Direct air-acetylene flame method. In: *Standard methods for the examination of water and wastewater*. 17th ed. Washington, DC: American Public Health Association, 3-20-3-23.
- APHA. 1989b. Metals-electrothermal absorption spectrometry, 3113B. Electrothermal atomic absorption spectrometric method. In: *Standard methods for examination of water and wastewater*. 17th ed. Washington, DC: American Public Health Association, 3-36-3-43.
- APHA. 1989c. Metals-flame atomic absorption spectrometry, 3110 and 3111. Metals by atomic absorption spectrometry. In: *Standard methods for examination of water and wastewater*. 17th ed. Washington, DC: American Public Health Association, 3-12-3-19.
- APHA. 1989d. Metals-plasma emission spectrometry, 3120B. Inductively coupled plasma (ICP) method. In: *Standard methods for the examination of water and wastewater*. 17th ed. Washington, DC: American Public Health Association, 3-54-3-63.
- *APHA. 1998a. Metals-flame atomic absorption spectroscopy, 3111. Metals by atomic absorption spectroscopy. In: *Standard methods for the examination of water and wastewater*. 20th ed. Washington, DC: American Public Health Association, 3-13-3-18.

9. REFERENCES

- *APHA. 1998b. Metals-electrothermal absorption spectroscopy, 3113B. Electrothermal atomic absorption spectroscopic method. In: Standard methods for the examination of water and wastewater. 20th ed. Washington, DC: American Public Health Association, 3-26-3-31.
- *APHA. 1998c. Inductively coupled plasma/mass spectrometry (ICP/MS) Method, 3125B. Metals by inductively coupled spectrometry. In: Standard methods for the examination of water and wastewater. 20th ed. Clesceri LS, Greenberg AE, Eaton AD, et al., eds. Washington, DC: American Public Health Association, American Water Works Association, Water Environment Federation, 3-44-3-52.
- *Apostoli P, Giusti S, Bartoli D, et al. 1998. Multiple exposure to arsenic, antimony, and other elements in art glass manufacturing. *Am J Ind Med* 34:65-72.
- Arakawa Y, Wada O. 1986. Immunotoxicity of organotin compounds. *Igaku no Ayumi* 136:177-181 (Japanese).
- *Arakawa Y, Wada O, Manabe M. 1983. Extraction and fluorometric determination of organotin compounds with Morin. *Anal Chem* 55:1901-1904.
- Arakawa Y, Wada O, Yu TH. 1981. Dealkylation and distribution of tin compounds. *Toxicol Appl Pharmacol* 60:1-7.
- *Arambarri I, Garcia R, Millan E. 2003. Assessment of tin and butyltin species in estuarine superficial sediments from Gipuzkoa, Spain. *Chemosphere* 51:643-649.
- Arnold CG, Ciani A, Muller SR, et al. 1998. Association to triorganotin compounds with dissolved humic acids. *Environ Sci Technol* 32:2976-2983.
- Arnold CG, Weidenhaupt A, David MM, et al. 1997. Aqueous speciation and 1-octanol-water partitioning of tributyl- and triphenyltin: Effect of pH and ion composition. *Environ Sci Technol* 31:2596-2602.
- *Aschner M, Aschner JL. 1992. Cellular and molecular effects of trimethyltin and triethyltin: relevance to organotin neurotoxicity. *Neurosci Biobehav Rev* 16:427-435.
- *Aschner M, Gannon M, Kimelberg HK. 1992. Interaction of trimethyl tin (TMT) with rat primary astrocyte cultures: altered uptake and efflux of rubidium, L-glutamate and D-aspartate. *Brain Res* 582(2):181-185.
- *Ashford, RD. 1994. Ashford's dictionary of industrial chemicals: Properties, production, uses. London, England: Wavelength Publ, Ltd., 903.
- Asubiojo OI, Nkono NA, Ogunsua AO, et al. 1997. Trace elements in drinking and groundwater samples in southern Nigeria. *Sci Total Environ* 208:1-8.
- Attahiru US, Iyaniwura TT, Adaudi AO, et al. 1991a. Acute toxicity studies of tri-n-butyltin and triphenyltin acetates in rats. *Vet Hum Toxicol* 33(6):554-556.
- Attahiru US, Iyaniwura TT, Adaudl AO, et al. 1991b. Subchronic toxicity studies of tri-n-butyltin and triphenyltin acetates in rats. *Vet Hum Toxicol* 33(5):499-502.

9. REFERENCES

- *Azenha MA, Evangelista R, Martel F, et al. 2004. Estimation of the human intestinal permeability of butyltin species using the Caco-2 cell line model. *Food Chem Toxicol* 42(9):1431-1442.
- Badawy MI, Wahaab RA, Abouwaly HF. 1995. Petroleum and chlorinated hydrocarbons in water from Lake Manzala and associated canals. *Bull Environ Contam Toxicol*. 55:258-263.
- *Bancon-Montigny Ch, Lespes G, Potin-Gautier M. 2004. Organotin survey in the Adour-Garonne basin. *Water Res* 38(38):4.
- Baranowska I, Baranowski J, Norska-Borowka I, et al. 1996. Separation and identification of metals in human bones, placenta and milk and in air by adsorption and ion-exchange thin-layer chromatography. *J Chromatogr A* 725:199-202.
- *Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk assessments. *Regul Toxicol Pharmacol* 8:471-486.
- *Barnes JM, Magee PN. 1958. The biliary and hepatic lesion produced experimentally by dibutyltin salts. *J Pathol Bacteriol* 75:267-279.
- *Barnes JM, Stoner HB. 1958. Toxic properties of some dialkyl and trialkyl tin salts. *Br J Ind Med* 15:15-22.
- *Barnes JM, Stoner HB. 1959. The toxicology of tin compounds. *Pharmacol Rev* 11:211-231.
- *Barnes D, Bellin J, DeRosa C, et al. 1988. Reference dose (RfD): Description and use in health risk assessments. Vol. I. Appendix A: Integrated risk information system supportive documentation. Washington, DC: U.S. Environmental Protection Agency, Office of Health and Environmental Assessment. EPA600888032a.
- *Baroncelli S, Karrer D, Turillazzi PG. 1990. Embryotoxic evaluation of bis(tri-n-butyltin)oxide (TBTO) in mice. *Toxicol Lett* 50:257-262.
- *Baroncelli S, Karrer D, Turillazzi PG. 1995. Oral bis(tri-n-butyltin)oxide in pregnant mice. I. Potential influence of maternal behavior on postnatal mortality. *J Toxicol Environ Health* 46:355-367.
- *Barone S Jr. 1993. Developmental differences in neural damage following trimethyltin as demonstrated with GFAP immunohistochemistry. Markers of neuronal injury and degeneration. *Ann N Y Acad Sci* 679:306-316.
- *Barone S Jr, Stanton ME, Murdy WR. 1995. Neurotoxic effects of neonatal triethyltin (TET) exposure are exacerbated with aging. *Neurobiol Aging* 16(5):723-735.
- *Barroso CM, Mendo S, Moreira MH. 2004. Organotin contamination in the mussel *Mytilus galloprovincialis* from portuguese coastal waters. *Mar Pollut Bull* 48(11-12):1149-1153.
- Barug D. 1981. Microbial degradation of bis (tributyltin) oxide. *Chemosphere* 10:1145-1154.
- *Baselt RC. 1988. Tin. In: *Biological monitoring methods for industrial chemicals*. 2nd ed. Littleton, MA: Year Book Medical Publishers, Inc., 278-281.

9. REFERENCES

*Basters J, Martijn A, van der Molen T, et al. 1978. Gas-liquid chromatographic method for determining Fentin in Fentin-Maneb Preparations: CIPAC interlaboratory study. *J Assoc Off Anal Chem* 61:1507-1512.

Batley G. 1996. The distribution and fate of tributyltin in the marine environment. *Cambridge Environ Chem Ser*, 8 (Tributyltin: Case study of environmental contaminant), 139-166.

*Batt JM. 2004. The world of organotin chemicals: applications, substitutes, and the environment. Organotin Environmental Programme Association.
<http://www.ortepa.org/WorldofOrganotinChemicals.pdf>. November 05, 2004.

Becker G, Janak K, Colmsjo A, et al. 1997. Speciation of organotin compounds from poly(vinyl chloride) at increased temperature by gas chromatography with atomic emission. *J Chromatogr A* 775:295-306.

Becker-van Slooten K, Tarradellas J. 1995. Organotins in Swiss lakes after their ban: Assessment of water, sediment, and Dreissena polymorpha contamination over a four-year period. *Arch Environ Contam Toxicol* 29:384-392.

Becker van Slooten K, Tarradellas J. 1994. Accumulation, depuration and growth effects of tributyltin in the freshwater bivalve Dreissena polymorpha under field conditions. *Environ Toxicol Chem* 13:755-762.

Bennett BG. 1986. Chapter 8: Exposure assessment for metals involved in carcinogenesis. In: O'Neil IK, Schuller P, Fishbein L, eds. *Environmental carcinogens selected methods of analysis*. IARC Scientific Publication 71. Lyon, France: World Health Organization, International Agency for Research on Cancer, 115-128.

Benoy CJ, Hooper PA, Schneider R. 1971. The toxicity of tin in canned fruit juices and solid foods. *Food Cosmet Toxicol* 9:645-656.

Benya TJ. 1997. Bis(tributyltin) oxide toxicology. *Drug Metab Rev* 29(4):1189-1284.

Berg CP, Rothbart A, Lauber K, et al. 2003. Tributyltin (TBT) induces ultra-rapid caspase activation independent of apoptosis formation in human platelets. *Oncogene* 22(55):775-780.

*Berge JA, Brevik EM, Bjorge A, et al. 2004. Organotins in marine mammals and seabirds from Norwegian territory. *J Environ Monitor* 6(2):108-112.

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

Bernardo-Filho M, Cunha MC, Valsa IO. 1994. Evaluation of potential genotoxicity of stannous chloride: inactivation, filamentation and lysogenic induction of Escherichia coli. *Food Chem Toxicol* 32(5):477-9.

*Biego GH, Joyeux M, Hartemann P, et al. 1999. Determination of dietary tin intake in an adult French citizen. *Arch Environ Contam Toxicol* 36:227-232.

*Birchenough AC, Barnes N, Evans SM, et al. 2002. A review and assessment of tributyltin contamination in the North Sea, based on surveys of butyltin tissue burdens and imposex/intersex in four species of neogastropods. *Mar Pollut Bull* 44(6):534-543.

9. REFERENCES

- Blunden S, Wallace T. 2003. Tin in canned food: a review and understanding of occurrence and effect. *Food Chem Toxicol* 41(12):1651-1662.
- *Blunden SJ, Hobbs LA, Smith PJ. 1984. The environmental chemistry of organotin compounds. *Environmental Chemistry* 3:49-77.
- Bock R. 1981. Triphenyltin compounds and their degradation products. *Residue Rev* 79:1-270.
- *Bollo E, Ceppa L, Cornaglia E, et al. 1996. Triphenyltin acetate toxicity: a biochemical and ultrastructural study on mouse thymocytes. *Hum Exp Toxicol* 15(3):219-225.
- Bollweg G, Balaban C, Cox HJ, et al. 1995. Potential efficacy and toxicity of GM1 ganglioside against trimethyltin-induced brain lesions in rats: comparison with protracted food restriction. *Neurotoxicology* 16(2):239-255.
- *Boogard PJ, Boisset M, Blunden S, et al. 2003. Comparative assessment of gastrointestinal irritant potency in man of tin(II) chloride and tin migrated from packaging. *Food Chem Toxicol* 41(12):1663-1670.
- Boraiko C, Yoder R, Cooper J, et al. 2004. Sampling and analysis of butyltin compounds in air using gas chromatography and flame photometric detection. *J Occup Environ Hyg* 1(1):50-56.
- *Bouldin TW, Goines ND, Bagnell CR, et al. 1981. Pathogenesis of trimethyltin neuronal toxicity: Ultrastructural and cytochemical observations. *Am J Pathol* 104:237-249.
- Bouldin TW, Goines ND, Krigman MR. 1984. Trimethyltin retinopathy. *J Neuropathol Exp Neurol* 43(2):162-174.
- Boutakhrit K, Shang ZP, Kauffmann J-M. 1995. Inorganic tin (II) determination by FIA with amperometric detection of its oxinate complex. *Talanta* 42:1883-1890.
- *Boyer IJ. 1989. Toxicity of dibutyltin, tributyltin and other organotin compounds to humans and to experimental animals. *Toxicology* 55:253-298.
- *Brand A, Leibfritz D, Wolburg H, et al. 1997. Interactions of triethyltin-chloride (TET) with the energy metabolism of cultured rat brain astrocytes: Studies by multinuclear magnetic resonance spectroscopy. *Neurochem Res* 22(2):123-131.
- *Bressa G, Hinton RH, Price SC, et al. 1991. Immunotoxicity of tri-n-butyltin oxide (TBTO) and tri-n-butyltin chloride (TBTC) in the rat. *J Appl Toxicol* 11(6):397-402.
- *Bridges JW, Davies DS, Williams RT. 1967. The fate of ethyltin and diethyltin derivatives in the rat. *Biochem J* 105:1261-1267.
- Brodie ME, Opacka-Juffry J, Peterson DW, et al. 1990. Neurochemical changes in hippocampal and caudate dialysate associated with early trimethyltin neurotoxicity in rats. *Neurotoxicology* 11(1):35-46.
- *Bronstein AC, Currance PL. 1988. Guideline 13. Corrosives (U.N. Class #8). Emergency care for hazardous materials exposure. St. Louis, MO: The C.V. Mosby Company, 109-110.

9. REFERENCES

- *Brown AW, Aldridge WN, Street BW, et al. 1979. The behavioral and neuropathologic sequelae of intoxication by trimethyltin compounds in the rat. *Am J Pathol* 97:59-76.
- *Brown AW, Verschoyle RD, Street BW, et al. 1984. The neurotoxicity of trimethyltin chloride in hamsters, gerbils and marmosets. *J Appl Toxicol* 4:12-21.
- *Bruccoleri A, Brown H, Harry GJ. 1998. Cellular localization and temporal elevation of tumor necrosis factor-alpha, interleukin-1 alpha, and transforming growth factor-beta 1 mRNA in hippocampal injury response induced by trimethyltin. *J Neurochem* 71(4):1577-1587.
- *Brzezinska-Paudyn A, Van Loon JC. 1988. Determination of tin in environmental samples by graphite furnace atomic absorption and inductively coupled plasma-mass spectrometry. *Fresenius Z Anal Chem* 331:707-712.
- *Buckingham JE, ed. 1982. Heilbron's dictionary of organic compounds. 5th ed. Vol. 1. New York, NY: Chapman and Hall, 727, 885, 1216, 1688.
- *Budavari S, ed. 2001. Tin. The Merck index - An encyclopedia of chemicals, drugs, and biologicals. 13th edition. Whitehouse Station, NJ: Merck and Co., Inc., 1685.
- Bueno M, Astruc A, Lambert J, et al. 2001. Effect of solid surface composition on the migration of tributyltin in groundwater. *Environ Sci Technol* 35:1411-1419.
- *Bullock K, Sadamatsu M, Patel A, et al. 1999. Calcitonin gene-related peptide immunoreactivity in the hippocampus and its relationship to cellular changes following exposure to trimethyltin. *J Neurosci Res* 55(4):441-457.
- *Bulten, EJ, Meinema, HA. 1991. Tin. In: Merian E, ed. Metals and their compounds in the environment. Weinheim, Germany: VCH, 1243-1259.
- Burt JS, Ebelle GF. 1995. Organic pollutants in mussels and sediments of the coastal waters off Perth, Western Australia. *Mar Pollut Bull* 30:723-732.
- Bushnell PJ. 1988. Effects of delay, intertrial interval, delay behavior and trimethyltin on spatial delayed response in rats. *Neurotoxicol Teratol* 10:237-244.
- Bushnell PJ. 1990. Delay-dependent impairment of reversal learning in rats treated with trimethyltin. *Behav Neural Biol* 54:75-89.
- Bushnell P, Evans H. 1985. Effects of trimethyltin on homecage behavior of rats. *Toxicol Appl Pharmacol* 79:134-142.
- Bushnell P, Evans H. 1986. Diurnal patterns in homecage behavior of rats after acute exposure to triethyltin. *Toxicol Appl Pharmacol* 85:346-354.
- Businaro R, Corvino V, Concetta Geloso M, et al. 2002. De novo expression of calretinin in trimethyltin-induced degeneration of developing rat hippocampus. *Brain Res Brain Res Rev* 98:141-144.
- *Byington KH, Yeh RY, Forte LR. 1974. The hemolytic activity of some trialkyltin and triphenyltin compounds. *Toxicol Appl Pharmacol* 27:230-240.

9. REFERENCES

- *Byrd JT, Andreae MO. 1986. Concentrations and fluxes of tin in aerosols and rain. *Atmos Environ* 20(5):931-939.
- Byrd FA, Caruso JA. 1995. Trace metals speciation by HPLC with plasma source mass spectrometry detection. *Environ Health Perspect* 103:21-23.
- *Cabral RE, Leitao AC, Lage C, et al. 1998. Mutational potentiality of stannous chloride: an important reducing agent in the Tc-99m-radiopharmaceuticals. *Mutat Res* 408:129-135.
- *Calley D, Guess W, Autian J. 1967. Hepatotoxicity of a series of organotin esters. *J Pharm Sci* 56:240-243.
- Callow ME, Willingham GL. 1996. Degradation of antifouling biocides. *Biofouling* 10:239-249.
- *Calloway DH, McMullen JJ. 1966. Fecal excretion of iron and tin by men fed stored canned foods. *Am J Clin Nutr* 18(1):1-6.
- Calvery HO. 1942. Trace elements in foods. *Food Res* 7:313-331.
- Cameron JA, Kodavanti PRS, Pentyala SN, et al. 1991. Triorganotin inhibition of rat cardiac adenosine triphosphates and catecholamine binding. *J Appl Toxicol* 11(6):403-409.
- Cannon RL, Hoover DB, Woodruff ML. 1991. Trimethyltin increases choline acetyltransferase in rat hippocampus. *Neurotoxicol Teratol* 13:241-244.
- Cardarelli N. 1990. Tin and the thymus gland: A review. *Thymus* 15(4):223-231.
- *Cardwell RD, Brancato M, Toll J, et al. 1999a. Aquatic ecological risks posed by tributyltin in United States surface waters: Pre-1989 to 1996 data. *Environ Toxicol Chem* 18(3):567-577.
- *Cardwell RD, Keithly JC, Simmonds J. 1999b. Tributyltin in U.S. market-bought seafood and assessment of human health risks. *Human and Ecological Risk Assessment* 5(2):317-335.
- *Carlin JF Jr. 2001. Tin. U.S. Geological Survey Minerals Yearbook. USGS, 78.2-78.8, tables 1-10. <http://minerals.er.usgs.gov:80/minerals/pubs/commodity/tin/tinmyb01.pdf>. May 29, 2003.
- Carlin JF Jr. 2003a. Tin. U.S. Geological Survey, Mineral Commodity Studies, 176-177. <http://minerals.er.usgs.gov:80/minerals/pubs/commodity/tin/660303.pdf>. May 29, 2003.
- *Carlin JF Jr. 2003b. Tin. <http://minerals.usgs.gov/minerals/pubs/commodity/tin/>. December 31, 2004.
- *Carlin JF Jr. 2004. Tin. http://minerals.usgs.gov/minerals/pubs/commodity/tin/tin_mcs04.pdf. December 03, 2004.
- *Carthew P, Edwards RE, Dorman BM. 1992. The immunotoxicity of tributyltin oxide (TBTO) does not increase the susceptibility of rats to experimental respiratory infection. *Hum Exp Toxicol* 11:71-75.
- Caruso JA, Klaue B, Michalke B, et al. 2003. Group assessment: elemental speciation. *Ecotoxicol Environ Saf* 56(1):32-44.

9. REFERENCES

- CEH. 1982. Tin-U.S. salient statistics. In: Chemical economics handbook. Menlo Park, CA: SRI International, 785.1000A-M.
- Champ MA. 2000. A review of organotin regulatory strategies, pending actions, related costs and benefits. *Sci Total Environ* 21:21-71.
- *Chang LW. 1984a. Hippocampal lesions induced by trimethyltin in the neonatal rat brain. *Neurotoxicology* 5:205-216.
- *Chang LW. 1984b. Trimethyltin induced hippocampal lesions at various neonatal ages. *Bull Environ Contam Toxicol* 33:295-301.
- Chang LW. 1986. Neuropathology of trimethyltin: A proposed pathogenetic mechanism. *Fundam Appl Toxicol* 6:217-232.
- *Chang LW. 1990. The neurotoxicology and pathology of organomercury, organolead, and organotin. *J Toxicol Sci* 15(4):125-151.
- *Chang LW, Dyer RS. 1983. A time-course study of trimethyltin induced neuropathology in rats. *Neurobehav Toxicol Teratol* 5:443-460.
- *Chang LW, Wenger GR, McMillan DE, et al. 1983. Species and strain comparison of acute neurotoxic effects of trimethyltin in mice and rats. *Neurobehav Toxicol Teratol* 5:337-350.
- *Chao JS, Wei LY, Huang MC, et al. 1999. Genotoxic effects of triphenyltin acetate and triphenyltin hydroxide on mammalian cells in vitro and in vivo. *Mutat Res* 444:167-174.
- *Chau YK, Zhang S, Maguire RJ. 1992. Occurrence of butyltin species in sewage and sludge in Canada. *Sci Total Environ* 121:271-281.
- *ChemID. 2003. ChemIDplus chemical search input page.
<http://chem.sis.nlm.nih.gov/chemidplus/cmplxqry.html>. June 30, 2006.
- *Chernoff N, Setzer RW, Miller DB, et al. 1990. Effects of chemically induced maternal toxicity on prenatal development in the rat. *Teratology* 42(6):651-658.
- *Chiba M, Shinohara A, Inaba Y. 1994. Improved method for using atomic absorption spectrometry with a graphite furnace to determine tin in blood. *Microchem J* 49:275-281.
- Chien LC, Hung TC, Choang KY, et al. 2002. Daily intake of TBT, Cu, Zn, Cd and As for fisherman in Taiwan. *Sci Total Environ* 285:177-185.
- Chikahisa L, Oyama Y. 1992. Tri-n-butyltin increases intracellular Ca^{2+} in mouse thymocytes: a flow-cytometric study using fluorescent dyes for membrane potential and intracellular Ca^{2+} . *Pharmacol Toxicol* 71:190-195.
- *Chillrud SN, Bopp RF, Simpson HJ, et al. 1999. Twentieth century atmospheric metal fluxes into Central Park Lake, New York City. *Environ Sci Technol* 33(5):657-662.
- *Chmielnicka J, Zareba G, Polkowska-kulesza E, et al. 1993. Comparison of tin and lead toxic action on erythropoietic system in blood and bone marrow of rabbits. *Biol Trace Elem Res* 36:73-87.

9. REFERENCES

- *Chow SC, Orrenius S. 1994. Rapid cytoskeleton modification in thymocytes induced by the immunotoxicant tributyltin. *Toxicol Appl Pharmacol* 127:19-26.
- *Chow SC, Kass GE, McCabe MJ Jr, et al. 1992. Tributyltin increases cytosolic free Ca²⁺ concentration in thymocytes by mobilizing intracellular Ca²⁺, activating Ca²⁺ entry pathway, and inhibiting Ca²⁺ efflux. *Arch Biochem Biophys* 298:143-149.
- *Ciesielski T, Wasik A, Kuklik I, et al. 2004. Organotin compounds in the liver tissue of marine mammals from the Polish coast of the Baltic Sea. *Environ Sci Technol* 38(5):1415-1420.
- *Clerici WJ. 1996. Effects of superoxide dismutase and U74389G on acute trimethyltin-induced cochlear dysfunction. *Toxicol Appl Pharmacol* 136:236-242.
- Clerici WJ, Chertoff ME, Brownell WE, et al. 1993. *In vitro* organotin administration alters guinea pig cochlear outer hair cell shape and viability. *Toxicol Appl Pharmacol* 120:193-202.
- *Clerici WJ, Ross B Jr, Fechter LD. 1991. Acute toxicity of trialkyltins in the guinea pig. *Toxicol Appl Pharmacol* 109(3):547-556.
- *Clewel HJ III, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1(4):111-131.
- Clowes GH Jr, MacPherson LB. 1951. Production of fatty livers by ligation of the pancreatic ducts in rats. *Am J Physiol* 165:628-638.
- *CLPSD. 1989. Contract Laboratory Program Statistical Database. Viar and Company, Management Services Division, Alexandria, VA.
- *CMI. 1988. Metal can shipments - 1988. Washington, DC: Can Manufacturers Institute.
- Cohn J, MacPhail RC. 1996. Acute trimethyltin exposure produces nonspecific effects on learning in rats working under a multiple repeated acquisition and performance schedule. *Neurotoxicol Teratol* 18:99-111.
- *Colborn T, Clement C. 1992. Chemically induced alterations in sexual and functional development. The Wildlife/Human Connection. In: Advances in modern environmental toxicology. Volume XXI. Princeton, NJ: Princeton Scientific Publishing Co.
- *Colosio C, Tomasini M, Cairoli S, et al. 1991. Occupational triphenyltin acetate poisoning: a case report. *Br J Ind Med* 48:136-139.
- *Cook LL, Heath SM, O'Callaghan JP. 1984b. Distribution of tin in brain subcellular fractions following the administration of trimethyl tin and triethyl tin to the rat. *Toxicol Appl Pharmacol* 73:564-568.
- *Cook LL, Stine KE, Reiter LW. 1984a. Tin distribution in adult rat tissues after exposure to trimethyltin and triethyltin. *Toxicol Appl Pharmacol* 76:344-348.
- *Cooke GM. 2002. Effect of organotins on human aromatase activity in vitro. *Toxicol Lett* 126:121-130.

9. REFERENCES

- *Cooke GM, Tryphonas H, Pulido O, et al. 2004. Oral (gavage), in utero and postnatal exposure of Sprague-Dawley rats to low doses of tributyltin chloride. Part I: Toxicology, histopathology, and clinical chemistry. *Food Chem Toxicol* 42(2):211-220.
- Cookson MR, Slamon ND, Pentreath VW. 1998. Glutathione modifies the toxicity of triethyltin and trimethyltin in C6 glioma cells. *Arch Toxicol* 72(4):197-202.
- *Cooney JJ. 1988. Microbial transformations of tin and tin compounds. *J Ind Microbiol* 3:195-204.
- *Cooper R, Stranks DR. 1966. Vapor pressure measurements. In: Jonassen HB, Weissberger A, eds. *Technique of inorganic chemistry*. Vol. VI. New York, NY: John Wiley & Sons, 1-82.
- *Corbin HB. 1970. Separation and determination of trace amounts of tin present as organotin residues on fruits. *J Assoc Off Anal Chem* 53:140-146.
- *Corsini E, Brucolieri A, Marinovich M, et al. 1996a. Endogenous interleukin-1 α is associated with skin irritation induced by tributyltin. *Toxicol Appl Pharmacol* 138(2):268-274.
- Corsini E, Schubert C, Marinovich M, et al. 1996b. Role of mitochondria in tributyltin-induced interleukin-1 α production in murine keratinocytes. *J Invest Dermatol* 107:720-725.
- *Corsini E, Viviani B, Marinovich M, et al. 1997. Role of mitochondria and calcium ions in tributyltin-induced gene regulatory pathways. *Toxicol Appl Pharmacol* 145:74-81.
- *Costa LG. 1985. Inhibition of γ -[³H]aminobutyric acid uptake by organotin compounds *in vitro*. *Toxicol Appl Pharmacol* 79:471-479.
- Cremer JE. 1957. The metabolism *in vitro* of tissue slices from rats given triethyltin compounds. *Biochem J* 67:87-96.
- *Cremer JE. 1958. The biochemistry of organotin compounds: The conversion of tetraethyltin into triethyltin in mammals. *Biochem J* 68:685-692.
- *Crisp TM, Clegg ED, Cooper RL, et al. 1998. Environmental endocrine disruption: An effects assessment and analysis. *Environ Health Perspect Suppl* 106(1):11-56.
- *Crofton KM, Dean KF, Menache MG, et al. 1990. Trimethyltin effects on auditory function and cochlear morphology. *Toxicol Appl Pharmacol* 105:123-132.
- *Cutter HC, Faller WW, Stocklen JB, et al. 1949. Benign pneumoconiosis in a tin oxide recovery plant. *J Ind Hyg* 31:139-141.
- Dabeka RW, McKenzie AD. 1992. Graphite-furnace atomic adsorption spectrometric determination and survey of total aluminum, copper, manganese, molybdenum, and tin in infant formulas and evaporated milk. *J AOAC Int* 75:954-963.
- *Dacasto M, Cornaglia E, Nebbia C, et al. 2001a. Triphenyltin acetate-induced cytotoxicity and CD4+ and CD8+ depletion in mouse thymocyte primary cultures. *Toxicology* 169(3):227-238.
- *Dacasto M, Nebbia C, Bollo E. 1994b. Triphenyltin acetate (TPTA)-induced cytotoxicity to mouse thymocytes. *Pharmacol Res* 29(2):179-186.

9. REFERENCES

- *Dacasto M, Nebbia C, Bollo E. 2001b. In vitro effects of triphenyltin acetate (TPTA) on mouse lymphocyte proliferation. *Toxicol in Vitro* 15(4-5):343-346.
- *Dacasto M, Valenza F, Nebbia C, et al. 1994a. Pathological findings in rabbits and sheep following the subacute administration of triphenyltin acetate. *Vet Hum Toxicol* 36(4):300-304.
- Dacre JC. 1984. A preliminary toxicological evaluation of eight chemicals used as wood preservatives. Fort Detrick, Frederick, MD: U.S. Army Medical Research and Development Command. Technical Report No. 8405. ADA144526.
- *Dannecker W, Schöder B, Stechmann H. 1990. Organic and inorganic substances in highway tunnel exhaust air. *Sci Total Environ* 93:293-300.
- *Dantas FJ, de Mattos JC, Moraes MO, et al. 2002. Genotoxic effects of stannous chloride (SnCl_2) in K562 cell line. *Food Chem Toxicol* 40:1493-1498.
- *Dantas FJ, Moraes MO, Carvalho EF, et al. 1996. Lethality induced by stannous chloride on *Escherichia coli* AB1157: Participation of reactive oxygen species. *Food Chem Toxicol* 34(10):959-962.
- Dantas FJS, Moraes MO, de Mattos JCP, et al. 1999. Stannous chloride mediates single strand breaks in plasmid DNA through reactive oxygen species formation. *Toxicol Lett* 110:129-136.
- *Daston GP, Gooch JW, Breslin WJ, et al. 1997. Environmental estrogens and reproductive health: A discussion of the human and environmental data. *Reprod Toxicol* 11(4):465-481.
- Davies IM, Bailey SK, Harding MJC. 1998. Tributyltin inputs to the North Sea from shipping activities, and potential risk of biological effects. *ICES J Mar Sci* 55:34-43.
- *Davis A, Barale R, Brun G, et al. 1987. Evaluation of the genetic and embryotoxic effects of bis(tri-n-butyltin)oxide (TBTO), a broad-spectrum pesticide, in multiple *in vivo* and *in vitro* short-term tests. *Mutat Res* 188:65-95.
- *Davison RL, Natusch DFS, Wallace JR, et al. 1974. Trace elements in fly ash: Dependence of concentration on particle size. *Environ Sci Technol* 8:1107-1113.
- *Dawson R Jr, Patterson TA, Eppler B. 1995. Endogenous excitatory amino acid release from brain slices and astrocyte cultures evoked by trimethyltin and other neurotoxic agents. *Neurochem Res* 20(7):847-858.
- de Fine Olivarius F, Balslev E, Menne T. 1993. Skin reactivity to tin chloride and metallic tin. *Contact Dermatitis* 29:110-111.
- *De Groot AP. 1973. Subacute toxicity of inorganic tin as influenced by dietary levels of iron and copper. *Food Cosmet Toxicol* 11:955-962.
- *De Groot AP, Feron V, Til H. 1973. Short-term toxicity studies on some salts and oxides of tin in rats. *Food Cosmet Toxicol* 11:19-30.
- DeLong GT, Rice CD. 1997. Tributyltin potentiates 3,3',4,4',5-pentachlorobiphenyl-induced cytochrome P-4501A-related activity. *J Toxicol Environ Health* 51:131-148.

9. REFERENCES

- de Mattos JC, Dantas FJ, Bezerra-Filho M, et al. 2000. Damage induced by stannous chloride in plasmid DNA. *Toxicol Lett* 116:159-163.
- *de Mora SJ, Pelletier E. 1997. Environmental tributyltin research: past, present, future. *Environ Technol* 18:1169-1177.
- de Mora SJ, Fowler SW, Cassi R, et al. 2003. Assessment of organotin contamination in marine sediments and biota from the Gulf and adjacent region. *Mar Pollut Bull* 46(4):401-409.
- De Smaele T, Moens L, Dams R, et al. 1996. Capillary gas chromatography-ICP mass spectrometry: A powerful hyphenated technique for the determination of organometallic compounds. *Fresenius J Anal Chem* 355:778-782.
- De Smaele T, Moens L, Sandra P, et al. 1998. Sodium tetra(n-propyl) borate: A novel aqueous in situ derivatization reagent for the simultaneous determination of organomercury, -lead and -tin compounds with capillary gas chromatography--inductively coupled plasma mass spectrometry. *J Chromatogr A* 793:99-106.
- De Waal EJ, Schuurman H-J, Rademakers LHPM, et al. 1993. The cortical epithelium of the rat thymus after in vivo exposure to bis(tri-n-butyltin)oxide (TBTO). *Arch Toxicol* 67:186-192.
- *Dey PM, Graff RD, Lagunowich LA, et al. 1994. Selective loss of the 180-kDa form of the neural cell adhesion molecule in hippocampus and cerebellum of the adult mouse following trimethyltin administration. *Toxicol Appl Pharmacol* 126:69-74.
- *Dey PM, Polunas MA, Philbert MA, et al. 1997. Altered expression of polysialylated NCAM in mouse hippocampus following trimethyltin administration. *Neurotoxicology* 18:633-643.
- *Doctor SV, Costa LG, Kendall DA, et al. 1982. Trimethyltin inhibits uptake of neurotransmitters into mouse forebrain synaptosomes. *Toxicology* 25:213-221.
- Doctor, SV, Costa LG, Murphy SD. 1983. Development of tolerance to the antinociceptive effect but not to the toxicity of trimethyltin after repeated exposure. *Developments in the Science and Practice of Toxicology* 11:587-590.
- *Doering DD, Steckelbroeck S, Doering T, et al. 2002. Effects of butyltins on human 5 α -reductase type 1 and type 2 activity. *Steroids* 67(10):859-867.
- Donard OFX, Weber JH. 1985. Behavior of methyltin compounds under simulated estuarine conditions. *Environ Sci Technol* 19:1104-1110.
- *Donard OFX, Weber JH. 1988. Volatilization of tin as stannate in anoxic environments. *Nature* 332:339-341.
- Dowson PH, Bubb JM, Lester JN. 1993. A study of the partitioning and sorptive behavior of butyltins in the aquatic environment. *Appl Organomet Chem* 7:623-633.
- *Dreef-van der Meulen HC, Feron VJ, Til HP. 1974. Pancreatic atrophy and other pathological changes in rats following feeding of stannous chloride. *Pathol Europ* 9:185-192.

9. REFERENCES

- Duncan J. 1980. The toxicology of molluscicides. The organotins. *Pharmacol Ther* 10:407-429.
- *Dundon CC, Hughes JP. 1950. Stannic oxide pneumoconiosis. *Am J Roentgenol Radium Ther* 63:797-812.
- Dwivedi RS, Kaur G, Srivastava RC, et al. 1985. Acute effects of organotins on brain, liver and kidney in rats. *Ind Health* 23:9-15.
- *Dyer RS, Boyes WK. 1984. Trimethyltin reduces recurrent inhibition in rats. *Neurobehav Toxicol Teratol* 6:369-371.
- Dyer RS, Walsh TJ, Wonderlin WF, et al. 1982. The trimethyltin syndrome in rats. *Neurobehav Toxicol Teratol* 4:127-133.
- Dyne D, Chana BS, Smith NJ, et al. 1991. Determination of tributyltin oxide and its di- and monobutyl metabolites in urine using combined gas chromatography--atomic absorption spectrometry. *Anal Chim Acta* 246:351-357.
- *Earley B, Burke M, Leonard BE. 1992. Behavioural, biochemical and histological effects of trimethyltin (TMT) induced brain damage in the rat. *Neurochem Int* 21(3):351-366.
- *Eastman CL, Young JS, Fechter LD. 1987. Trimethyltin ototoxicity in albino rats. *Neurotoxicol Teratol* 9:329-332.
- *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: The Hazardous Materials Control Research Institute.
- *Ekuta JE, Hikal AH, Matthews JC. 1998. Toxicokinetics of trimethyltin in four inbred strains of mice. *Toxicol Lett* 95(1):41-46.
- *Elsabbagh H, Moussa SZ, El-Tawil OS. 2002. Neurotoxicologic sequelae of tributyltin intoxication in rats. *Pharmacol Res* 45(3):201-206.
- *Elsea JR, Paynter OE. 1958. Toxicological studies on bis(tri-n-butyltin) oxide. *AMA Arch Ind Health* 18:214-217.
- Ema M. 2000. Reproductive and developmental toxicity of organotin compounds in rats [Abstract]. *Teratology* 62(3):8A.
- Ema M. 2001. Developmental and reproductive toxicity of tributyltin and its metabolite, dibutyltin, in rats [Abstract]. *Teratology* 63(4):14A.
- *Ema M, Harazono A. 2000. Adverse effects of dibutyltin dichloride on initiation and maintenance of rat pregnancy. *Reprod Toxicol* 14:451-456.
- Ema M, Harazono A. 2001. Toxic effects of butyltin trichloride during early pregnancy in rats. *Toxicol Lett* 125:99-106.
- Ema M, Miyawaki E. 2001. Roles of progesterone on suppression of uterine decidualization and implantation failure induced by triphenyltin chloride in rats. *Congen Anom* 41(2):106-111.

9. REFERENCES

- *Ema M, Miyawaki E. 2002. Suppression of uterine decidualization correlated with reduction in serum progesterone levels as a cause of preimplantation embryonic loss induced by diphenyltin in rats. *Reprod Toxicol* 16(3):309-317.
- *Ema M, Harazono A, Hirose A, et al. 2003. Protective effects of progesterone on implantation failure induced by dibutyltin dichloride in rats. *Toxicol Lett* 143(2):233-238.
- *Ema M, Harazono A, Miyawaki E, et al. 1997a. Effect of the day of administration on the developmental toxicity of tributyltin chloride in rats. *Arch Environ Contam Toxicol* 33:90-96.
- *Ema M, Itami T, Kawasaki H. 1991a. Behavioral effects of acute exposure to tributyltin chloride in rats. *Neurotoxicol Teratol* 13(5):489-493.
- *Ema M, Itami T, Kawasaki H. 1991b. Changes of spontaneous motor activity of rats after acute exposure to tributyltin chloride. *Drug Chem Toxicol* 14:161-171.
- Ema M, Itami T, Kawasaki H. 1991c. Teratogenicity of di-n-butyltin dichloride in rats. *Toxicol Lett* 58:347-356.
- *Ema M, Itami T, Kawasaki H. 1992. Susceptible period for the teratogenicity of di-n-butyltin dichloride in rats. *Toxicology* 73:81-92.
- Ema M, Iwase T, Iwase Y, et al. 1995c. Dysmorphogenic effects of di-n-butyltin dichloride in cultured rat embryos. *Toxicol in Vitro* 9(5):703-709.
- Ema M, Iwase T, Iwase Y, et al. 1996. Change of embryotoxic susceptibility to di-n-butyltin dichloride in cultured rat embryos. *Arch Toxicol* 70(11):724-748.
- Ema M, Kurosaka R, Amano H, et al. 1995a. Comparative development toxicity of butyltin trichloride, dibutyltin dichloride and tributyltin chloride in rats. *J Appl Toxicol* 15(4):297-302.
- *Ema M, Kurosaka R, Amano H, et al. 1995b. Further evaluation of the developmental toxicity of tributyltin chloride in rats. *Toxicology* 96:195-201.
- *Ema M, Miyawaki E, Harazono A, et al. 1997b. Effects of triphenyltin chloride on implantation and pregnancy in rats. *Reprod Toxicol* 11:201-206.
- *Ema M, Miyawaki E, Kawashima K. 1999a. Developmental toxicity of triphenyltin chloride after administration on three consecutive days during organogenesis in rats. *Bull Environ Contam Toxicol* 62(3):363-370.
- *Ema M, Miyawake E, Kawashima K. 1999b. Suppression of uterine decidualization as a cause of implantation failure induced by triphenyltin chloride in rats. *Arch Toxicol* 73(3):175-179.
- *Ema M, Miyawaki E, Kawashima K. 1999c. Adverse effects of diphenyltin dichloride on initiation and maintenance of pregnancy in rats. *Toxicol Lett* 108(1):17-25.
- EPA. 1981. Neonatal triethyltin exposure alters adult electrophysiology in rats. Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development. EPA600J81163. PB83189589.

9. REFERENCES

*EPA. 1982a. U.S. Environmental Protection Agency. Eleventh report of the interagency testing committee to the administrator; receipt of report and request for comments regarding priority list of chemicals. Fed Regist 47:54626-54636.

EPA. 1982b. U.S. Environmental Protection Agency. Fed Regist 47:54624-54625.

*EPA. 1983a. Atomic absorption, direct aspiration - method 282.1. In: Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development. EPA600479020.

*EPA. 1983b. Atomic absorption, furnace technique - method 282.2. In: Methods for chemical analysis of water and wastes. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development. EPA600479020.

*EPA. 1986a. Atomic absorption methods - 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. Tin (atomic absorption, direct aspiration) - method 7870. 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. <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>. June 12, 2003.

*EPA. 1987a. Health effects assessment for tin and compounds. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development. EPA600888055.

EPA. 1987b. Market profile of marine paints. Washington, DC: U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances.

*EPA. 1987c. 40 CFR Parts 264 and 270. List (phase 1) of hazardous constituents for ground-water monitoring; final rule. U.S. Environmental Protection Agency: Part II. Fed Regist 52:25942-25952.

*EPA. 1988a. Ambient water quality criteria for tributyltin. Draft. Report to U.S. Environmental Protection Agency, Office of Research & Development, Duluth, MN, by University of Wisconsin-Superior, Center for Lake Superior Environmental Studies, Superior, WI.

EPA. 1988b. U.S. Environmental Protection Agency. Fed Regist 53:50093.

*EPA. 1988c. Tributyltin antifoulants; notice of intent to cancel; denial of applications for registration, partial conclusion of special review. U.S. Environmental Protection Agency: Part III. Fed Regist 53:39022-39041.

*EPA. 1988d. 40 CFR Part 716. Health and safety data reporting period terminations; final rule. U.S. Environmental Protection Agency: Part V. Fed Regist 53:38642-38654.

*EPA. 1988e. Recommendations for and documentation of biological values for use in risk assessment. Cincinnati, OH: U.S. Environmental Protection Agency. EPA600687008. PB88179874.

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

9. REFERENCES

*EPA. 1992. Atomic absorption methods - method 7000A. Revision 1. U.S. Environmental Protection Agency, 1-14. <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>. June 6, 2003.

EPA. 1996a. Acid digestion of sediments, sludges, and soils - method 3050B. U.S. Environmental Protection Agency. <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>. June 6, 2003.

*EPA. 1996b. Chapter 3: Inorganic analytes. On-line Test Methods for Evaluating Solid Wastes Physical/Chemical Methods. SW-846. U.S. Environmental Protection Agency. <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>. June 6, 2003.

EPA. 1997. Special report on environmental endocrine disruption: An effects assessment and analysis. Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. EPA630R96012.

EPA. 1997. Automated Form R for Windows: User's guide (RY97). Washington, DC: U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics.

*EPA. 2003a. Criteria for municipal solid waste landfills. List of hazardous inorganic and organic constituents. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 258, Appendix II. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

*EPA. 2003b. Designation, reportable quantities, and notification. Notification requirements. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 302.6. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

*EPA. 2003c. Emergency planning and notification. Emergency release notification. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 355.40. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

*EPA. 2003d. Emergency planning and notification. The list of extremely hazardous substances and their threshold planning quantities. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 355, Appendix A. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

*EPA. 2003e. Standards for owners and operators of hazardous waste treatment, storage, and disposal facilities. Ground-water monitoring list. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 264, Appendix IX. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

*EPA. 2003f. Toxic chemical release reporting: Community right-to-know. Chemicals and chemical categories to which this part applies. Washington, DC: U.S. Environmental Protection Agency. 40 CFR 372.65. <http://www.epa.gov/epahome/cfr40.htm>. June 6, 2003.

*EPA. 2003g. Draft final guidelines for carcinogen risk assessment. Risk Assessment Forum. Washington, DC: U.S. Environmental Protection Agency. EPA630P03001A. NCEA-F-0644A. <http://www.epa.gov/ncea/raf/cancer2003.htm>. June 6, 2003.

*EPA. 2004. High Production Volume (HPV) Challenge Program. U.S. Environmental Protection Agency. <http://www.epa.gov/chemrtk/hpvchmlt.htm>. December 03, 2004.

Eskes C, Honegger P, Jones-Lepp T, et al. 1999. Neurotoxicity of dibutyltin in aggregating brain cell cultures. *Toxicol in Vitro* 13:555-560.

9. REFERENCES

- Eskes C, Juillerat-Jeanneret L, Leuba G, et al. 2003. Involvement of microglia-neuron interactions in the tumor necrosis factor-alpha release, microglial activation, and neurodegeneration induced by trimethyltin. *J Neurosci Res* 71:583-590.
- *Eto Y, Suzuki K, Suzuki K. 1971. Lipid composition of rat brain myelin in triethyl tin-induced edema. *J Lipid Res* 12:570-579.
- Evans H. 1988. Quantitation of naturalistic behaviors. *Toxicol Lett* 43:345-359.
- Evans H. 1989. Behaviors in the homecage reveal toxicity: Recent findings and proposals for the future. *J Am Coll Toxicol* 8:35-51.
- Evans SM, Leksono T, McKinnell PD. 1995. Tributyltin pollution: a diminishing problem following legislation limiting the use of TBT-based anti-fouling paints. *Mar Pollut Bull* 30:14-21.
- Exon JH. 1984. The immunotoxicity of selected environmental chemicals, pesticides and heavy metals. *Prog Clin Biol Res* 161:355-368.
- Fait A, Ferioli A, Barbieri F. 1994. Organotin Compounds. *Toxicology* 91:77-82.
- *Faqi AS, Schweinfurth H, Chahoud I. 1997. Determination of the no-effect dose of bis(tri-n-butyltin)oxide (TBTO) for maternal toxicity and teratogenicity in mice. *Congen Anom* 37(3):251-258.
- Fargasova A. 1998. Comparison of effects of tributyl-, triphenyl-, and tribenzyltin compounds on freshwater benthos and alga *Scenedesmus quadricauda*. *Bull Environ Contam Toxicol* 60:9-15.
- *Farr CH, Reinisch K, Holson JF, et al. 2001. Potential teratogenicity of di-n-butyltin dichloride and other dibutyltin compounds. *Teratog Carcinog Mutagen* 21:405-415.
- *FDA. 1972. Teratologic evaluation of FDA 71-33 (stannous chloride). Washington, DC: U.S. Food & Drug Administration. PB221780.
- FDA. 1989. Food and Drug Administration. *Fed Regist* 54:48857-48859.
- *FDA. 2003a. Direct food substances affirmed as generally recognized as safe. Stannous chloride (anhydrous and dihydrated). Washington, DC: Food and Drug Administration. 21 CFR 184.1845 <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- *FDA. 2003b. Food additives permitted for direct addition to food for human consumption. Stannous chloride. Washington, DC: Food and Drug Administration. 21 CFR 172.180. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- *FDA. 2003c. Indirect food additives; adhesives and components of coatings. Resinous and polymeric coatings. Washington, DC: Food and Drug Administration. 21 CFR 175.300. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.
- *FDA. 2003d. Indirect food additives: Adhesives and components of coatings. Washington, DC: Food and Drug Administration. 21 CFR 175.105(c)(5). <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.

9. REFERENCES

*FDA. 2003e. Indirect food additives: Polymers. Polyurethane resins. Washington, DC: Food and Drug Administration. 21 CFR 177.1680(b). <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.

*FDA. 2003f. Indirect food additives: Polymers. Rubber articles intended for repeated use. Washington, DC: Food and Drug Administration. 21 CFR 177.2600(c)(4). <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.

*FDA. 2003g. Substances generally recognized as safe. Stannous chloride. Washington, DC: Food and Drug Administration. 21 CFR 582.3845. <http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200321>. June 6, 2003.

*Fechter LD, Carlisle L. 1990. Auditory dysfunction and cochlear vascular injury following trimethyltin exposure in the guinea pig. *Toxicol Appl Pharmacol* 105:133-143.

*Fechter LD, Liu Y. 1994. Trimethyltin disrupts N1 sensitivity, but has limited effects on the summating potential and cochlear microphonic. *Hearing Res* 78(2):189-196.

Fechter LD, Liu Y. 1995. Elevation of intracellular calcium levels in spiral ganglion cells by trimethyltin. *Hearing Res* 91:101-109.

*Fechter LD, Clerici WJ, Yao L, et al. 1992. Rapid disruption of cochlear function and structure by trimethyltin in the guinea pig. *Hearing Res* 58(2):166-174.

*FEDRIP. 2003. Palo Alto, CA: Federal Research in Progress. Dialog Information Services, Inc.

*Feldman RG, White RF, Eriator II. 1993. Trimethyltin encephalopathy. *Arch Neurol* 50(12):1320-1324.

*Fent K. 1996. Ecotoxicology of organotin compounds. *Crit Rev Toxicol* 26:1-117.

Fent K, Looser PW. 1998. Bioavailability and bioconcentration of organotin compounds in aquatic organisms. *Am Chem Soc Abstr Pap, Div Environ Chem Preprints of Extended Abstracts* 38:119-121.

*Fiedorowicz A, Figiel I, Kaminska B, et al. 2001. Dentate granule neuron apoptosis and glia activation in murine hippocampus induced by trimethyltin exposure. *Brain Res* 912:116-127.

*Figiel I, Fiedorowicz A. 2002. Trimethyltin-evoked neuronal apoptosis and glia response in mixed cultures of rat hippocampal dentate gyrus: a new model for the study of the cell type-specific influence of neurotoxins. *Neurotoxicology* 23:77-86.

*Fomon SJ. 1966. Body composition of the infant: Part I: The male "reference infant." In: Falkner F, ed. *Human development*. Philadelphia, PA: WB Saunders, 239-246.

*Fomon SJ, Haschke F, Ziegler EE, et al. 1982. Body composition of reference children from birth to age 10 years. *Am J Clin Nutr* 35:1169-1175.

*Foncin E, Gruner J. 1979. Tin neurotoxicity. In: Vinken P, Bruyn G, eds. *Handbook of clinical neurology*. Part 1. Intoxications of the nervous system. New York, NY: Nort-Williams, 279-290.

9. REFERENCES

- Forsyth DS, Jay B. 1997. Organotin leachates in drinking water from chlorinated poly(vinyl chloride) (CPCV) pipe. *Appl Organomet Chem* 11(7):551-558.
- *Fortemps E, Amand G, Bomboir A, et al. 1978. Trimethyltin poisoning. Report of two cases. *Int Arch Occup Environ Health* 41:1-6.
- Foulds IS, Koh D. 1991. Contact allergy to 1-acetyl-2-phenylhydrazine in a dimethacrylate adhesive. *Contact Dermatitis* 25:251-252.
- Freeman JH Jr, Barone S Jr, Stanton ME. 1993. Triethyltin produces neural damage and cognitive deficits in developing rats that depend on age of exposure. *Teratology* 47(5):465-466.
- *Freeman JH Jr, Barone S Jr, Stanton ME. 1994. Cognitive and neuroanatomical effects of triethyltin in developing rats: role of age of exposure. *Brain Res* 634:85-95.
- Fritsch P, De Saint Blanquat G, Derache R. 1977. [Nutritional and toxicological study of rats fed a diet containing tin.] *Toxicology* 8:165-175. (French)
- *Funahashi N, Iwasaki I, Ide G. 1980. Effects of bis(tri-n-butyltin)oxide on endocrine and lymphoid organs of male rats. *Acta Pathol Jpn* 30:955-966.
- *Furchner JE, Drake GA. 1976. Comparative metabolism of radionuclides in mammals--XI. Retention of ¹¹³Sn in the mouse, rat, monkey and dog. *Health Phys* 31:219-224.
- *Gadd GM. 2000. Microbial interactions with tributyltin compounds: detoxification, accumulation, and environmental fate. *Sci Total Environ* 258:119-127.
- *Gaines TB, Kimbrough RD. 1968. Toxicity of fentin hydroxide to rats. *Toxicol Appl Pharmacol* 12:397-403.
- Ganguly BB. 1993. Cell division, chromosomal aberration, and micronuclei formation in human peripheral blood lymphocytes. *Biol Trace Elem Res* 38:55-62.
- *Ganguly BB. 1994. Bone marrow clastogenicity of trimethyltin. *Mutat Res* 312:9-15.
- *Ganguly BB, Talukdar G, Sharma A. 1992. Cytotoxicity of tin on human peripheral lymphocytes in vitro. *Mutat Res* 282:61-67.
- *Gammeltoft M. 1978. Tributyltinoxide is not allergenic. *Contact Dermatitis* 4:238-239.
- *Gardlund AT, Archer T, Danielsson K, et al. 1991. Effects of prenatal exposure to tributyltin and trihexyltin on behaviour in rats. *Neurotoxicol Teratol* 13:99-105.
- *Gassó S, Sanfeliu C, Suñol C, et al. 2000. Trimethyltin and triethyltin differentially induce spontaneous noradrenaline release from rat hippocampal slices. *Toxicol Appl Pharmacol* 162:189-196.
- *Gaunt IF, Colley J, Grasso P, et al. 1968. Acute and short-term toxicity studies on di-n-butyltin dichloride in rats. *Food Cosmet Toxicol* 6:599-608.
- *Garcia F, Ortega A, Domingo JL, et al. 2001. Accumulation of metals in autopsy tissues of subjects living in Tarragona County, Spain. *J Environ Sci Health Part A* 36(9):1767-1786.

9. REFERENCES

*Gaver CC Jr. 1997. Tin and Tin Alloys. In: Kroschwitz JI, Howe-Grant M, eds. Kirk-Othmer Encyclopedia of chemical technology. Vol. 24: Thioglycolic Acid to Vinyl Polymers. New York, NY: John Wiley & Sons, 105-122.

Geloso MC, Corvino V, Cavallo V, et al. 2004. Expression of astrocytic nestin in the rat hippocampus during trimethyltin-induced neurodegeneration. *Neurosci Lett* 357(2):103-106.

Geloso MC, Vinesi P, Michetti F. 1997. Calretinin-containing neurons in trimethyltin-induced neurodegeneration in the rat hippocampus: an immunocytochemical study. *Exp Neurol* 146:67-73.

*Gennari A, Bleumink R, Viviani B, et al. 2002b. Identification by DNA macroarray of *nur77* as a gene induced by di-*n*-butyltin dichloride: Its role in organotin-induced apoptosis. *Toxicol Appl Pharmacol* 181(1):27-31.

*Gennari A, Bol M, Seinen W, et al. 2002a. Organotin-induced apoptosis occurs in small CD4 (+) CD8 (+) thymocytes and is accompanied by an increase in RNA synthesis. *Toxicology* 175:191-200.

*Gennari A, Potters M, Seinen W, et al. 1997. Organotin-induced apoptosis as observed *in vitro* is not relevant for induction of thymus atrophy at antiproliferative doses. *Toxicol Appl Pharmacol* 147(2):259-266.

*Gennari A, Viviani B, Galli CL, et al. 2000. Organotins induce apoptosis by disturbance of $[Ca^{2+}]_i$ and mitochondrial activity, causing oxidative stress and activation of caspases in rat thymocytes. *Toxicol Appl Pharmacol* 169:185-190.

*Gerritse RG, Vriesema R, Daleberg JW, et al. 1982. Effect of sewage sludge on trace element mobility in soils. *J Environ Qual* 11:359-364.

Ghoneum M, Hussein AE, Gill G, et al. 1990. Suppression of murine natural killer cell activity by tributyltin: *in vivo* and *in vitro* assessment. *Environ Res* 52(2):178-186.

*Ghosh BB, Talduker G, Sharma A. 1990. Frequency of micronuclei induced in peripheral lymphocytes by trimethyltin chloride. *Mutat Res* 245:33-39.

*Ghosh BB, Talukder G, Sharma A. 1991. Frequency of chromosome aberrations induced by trimethyltin chloride in human peripheral blood lymphocytes *in vitro*: Related to age of donors. *Mech Ageing Dev* 57(2):125-138.

Giroux EL, Henkin RI. 1972. Macromolecular ligands of exchangable copper, zinc, and cadmium in human serum. *Bioinorg Chem* 2:125-133.

*Giwerzman A, Carlsen E, Keiding N, et al. 1993. Evidence for increasing incidence of abnormalities of the human testis: A review. *Environ Health Perspect Suppl* 101(2):65-71.

*Goh CL. 1985. Irritant dermatitis from tri-*n*-butyl tin oxide in paint. *Contact Dermatitis* 12:161-163.

*Gohlke VR, Lewa W, Strachovsky A, et al. 1969. [Animal experimental studies on the inhalatory effects of tributyltin chloride in a subchronic test.] *Gezamte Hyg* 15:97-104. (German)

9. REFERENCES

- *Gomez-Ariza JL, Giraldez I, Morales E. 2001. Occurrence of organotin compounds in water, sediments and mollusca in estuarine systems in the southwest of Spain. *Water Air Soil Pollut* 126:253-279.
- Gordon CJ, Fogelson L. 1991. Comparison of rats of the Fischer 344 and Long-Evans strains in their autonomic thermoregulatory response to trimethyltin administration. *J Toxicol Environ Health* 32(2):141-152.
- Gordon CJ, O'Callaghan JP. 1995. Trimethyltin-induced neuropathy in the rat: interaction with thermoregulation. *Neurotoxicology* 16(2):319-326.
- Gosselin RE, Smith RP, Hedge HC. 1984. Stannic and stannous salts. In: *Clinical toxicology of commercial products*. 5th ed. Baltimore, MD: Williams and Wilkins, II-146.
- Gozzo S, Perretta G, Monaco V, et al. 1993. The neuropathology of trimethyltin in the marmoset (*Callithrix jacchus*) hippocampus formation. *Ecotoxicol Environ Saf* 26:293-301.
- Graedel TE. 1978. Inorganic elements, hydrides, oxides, and carbonates. In: *Chemical compounds in the atmosphere*. New York, NY: Academic Press, 35-49.
- *Graham DI, Gonatas NK. 1973. Triethyltin sulfate-induced splitting of peripheral myelin in rats. *Lab Invest* 29(6):628-632.
- Gramowski A, Schiffman D, Gross GW. 2000. Quantification of acute neurotoxic effects of trimethyltin using neuronal networks cultured on microelectrode arrays. *Neurotoxicology* 21(3):331-342.
- *Green DR, LePape D. 1987. Stability of hydrocarbon samples on solid-phase extraction columns. *Anal Chem* 59:699-703.
- Greger JL. 1987. Aluminum and tin. *World Rev Nutr Diet* 54:255-285.
- *Greger JL, Johnson MA. 1981. Effect of dietary tin on zinc. Copper and iron utilization by rats. *Food Cosmet Toxicol* 19:163-166.
- Greig JB, Pennington JA. WHO Food Additives Series 46: Tin (addendum). <http://www.inchem.org/documents/jecfa/jecmono/v46je12.htm>. June 6, 2003.
- *Grovhoug JG, Fransham RL, Valkirs AO, et al. 1996. Tributyltin concentrations in water, sediment, and bivalve tissue from San Diego Bay and Hawaiian harbors. In: Champ MA, Seligman PF, eds. *Organotin*. London, UK: Chapman & Hall, 503-533.
- Gruner JE. 1958. [Damage to the central nervous system after ingestion of an ethyl tin compound (Stalinon)]. *Rev Neurol* 98:109-116. (French)
- Gui-bin J, Qun-fang Z, Bin H. 2000. Tin compounds and major trace metal elements in organotin-poisoned patient's urine and blood measured by gas chromatography-flame photometric detector and inductively coupled plasma-mass spectrometry. *Bull Environ Contam Toxicol* 65:277-284.
- Guilarte TR, Kuhlmann AC, O'Callaghan JP, et al. 1995. Enhanced expression of peripheral benzodiazepine receptors in trimethyltin-exposed rat brain: a biomarker of neurotoxicity. *Neurotoxicology* 16:441-450.

9. REFERENCES

- *Gulati D, Witt K, Anderson B, et al. 1989. Chromosome aberration and sister chromatid exchange tests in Chinese hamster ovary cells in vitro III. Results with 27 chemicals. *Environ Mol Mutagen* 13:133-193.
- *Gunasekar P, Li L, Prabhakaran K, et al. 2001. Mechanisms of the apoptotic and necrotic actions of trimethyltin in cerebellar granule cells. *Toxicol Sci* 64:83-89.
- Gupta BN, Rastogi SK, Husain T, et al. 1991. A study of respiratory morbidity and pulmonary function among solderers in the electronics industry. *Am Ind Hyg Assoc J* 52(2):45-51.
- *Guruge KS, Iwata H, Tanaka H, et al. 1997. Butyltin accumulation in the liver and kidney of seabirds. *Mar Environ Res* 44:191-199.
- *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.
- *Hadjispyrou SA, Anagnostopoulos A, Nicholson K, et al. 1998. Correlation of the methylating capacity of river and marine sediments to their organic sediment index. *Environ Geochem Health* 20:19-27.
- *Haga S, Haga C, Aizawa T, et al. 2002. Neuronal degeneration and glial cell-responses following trimethyltin intoxication in the rat. *Acta Neuropathol* 103:575-582.
- Hagan JJ, Jansen JH, Broekkamp CL. 1988. Selective behavioral impairment after acute intoxication with trimethyltin (TMT) in rats. *Neurotoxicology* 9:53-74.
- *Hall LW Jr. 1988. Tributyltin environmental studies in Chesapeake Bay. *Mar Pollut Bull* 19: 431-438.
- *Hallas LE, Means JC, Cooney JJ. 1982. Methylation of tin by estuarine microorganisms. *Science* 215:1505-1507.
- Hamasaki T, Sato T, Nagase H, et al. 1992. The genotoxicity of organotin compounds in SOS chromotest and rec-assay. *Mutat Res* 280:195-203.
- *Hamasaki T, Sato T, Nagase H, et al. 1993. The mutagenicity of organotin compounds as environmental pollutants. *Mutat Res* 300(3):265-271.
- Han F, Fasching JL, Brown PR. 669. Speciation of organotin compounds by capillary electrophoresis using indirect ultraviolet absorbance detection. *J Chromatogr B Biomed Appl* 669:103-112.
- Hara K, Yoshizuka M, Doi Y, et al. 1994. Effect of bis (tributyl tin) oxide on permeability of the blood-brain barrier: a transient increase. *Occup Environ Med* 51:735-738.
- *Harazono A, Ema M. 2000. Suppression of decidual cell response induced by tributyltin chloride in pseudopregnant rats: a cause of early embryonic loss. *Arch Toxicol* 74(10):632-637.
- *Harazono A, Ema M. 2003. Suppression of decidual cell response induced by dibutyltin dichloride in pseudopregnant rats: as a cause of early embryonic loss. *Reprod Toxicol* 17:393-399.
- Harazono A, Ema M, Ogawa Y. 1996. Pre-implantation embryonic loss induced by tributyltin chloride in rats. *Toxicol Lett* 89:185-190.

9. REFERENCES

- *Harazono A, Ema M, Ogawa Y. 1998. Evaluation of early embryonic loss induced by tributyltin chloride in rats: Phase- and dose-dependent antifertility effects. *Arch Environ Contam Toxicol* 34:94-99.
- *Harding LE, Harris ML, Elliott JE. 1998. Heavy and trace metals in wild mink (*Mustela vison*) and river otter (*Lontra canadensis*) captured on rivers receiving metals discharges. *Bull Environ Contam Toxicol* 61:600-607.
- *Harino H, Fukushima M, Kawai S. 2000. Accumulation of butyltin and phenyltin compounds in various fish species. *Arch Environ Contam Toxicol* 39:13-19.
- *Harino H, Fukushima M, Yamamoto Y, et al. 1998. Organotin compounds in water, sediment, and biological samples from the Port of Osaka, Japan. *Arch Environ Contam Toxicol* 35:558-564.
- Harry GJ, Lefebvre d'Hellencourt C, Brucolieri A, et al. 2000. Age-dependent cytokine responses: Trimethyltin hippocampal injury in wild-type, APOE knockout, and APOE4 mice. *Brain Behav Immun* 14:288-304.
- Harry GJ, McPherson CA, Wine RN, et al. 2004. Trimethyltin-induced neurogenesis in the murine hippocampus. *Neurotox Res* 5(8):623-627.
- *Harry GJ, Tyler K, Lefebvre d'Hellencourt C, et al. 2002. Morphological alterations and elevations in tumor necrosis factor-alpha, interleukin (IL)-1 α , and IL-6 in mixed glia cultures following exposure to trimethyltin: Modulation by proinflammatory cytokine recombinant proteins and neutralizing antibodies. *Toxicol Appl Pharmacol* 180:205-218.
- Hawkins SJ, Gibbs PE, Pope ND, et al. 2002. Recovery of polluted ecosystems: the case for long-term studies. *Mar Environ Res* 54:215-222.
- *HazDat. 2004. Hazardous Substance Database. Agency for Toxic Substances and Disease Registry, Atlanta, GA. December 31, 2004.
- *Heidrich DD, Steckelbroeck S, Klingmuller D. 2001. Inhibition of human cytochrome P450 aromatase by butyltins. *Steroids* 66:763-769.
- Heit M, Klusek CS. 1985. Trace element concentrations in the dorsal muscle of white suckers and brown bullheads from two acidic Adirondack lakes. *Water Air Soil Pollut* 25:87-96.
- Hellawell JM. 1988. Toxic substances in rivers and streams. *Environ Pollut* 50:61-85.
- Henninghausen G, Lange P. 1979. Toxic effects of di-*n*-octyltin dichloride on the thymus in mice. *Arch Toxicol (Suppl 2)*:315-320.
- Henninghausen G, Lange P. 1980. Immunotoxic effects of dialkyltins used for stabilization of plastics. *Pol J Pharmacol Pharm* 32:119-124.
- *Henninghausen G, Merkord J. 1985. Meso-2,3-dimercaptosuccinic acid increases the inhibition of glutathione S-transferase activity from rat liver cytosol supernatants by di-*n*-butyltin dichloride. *Arch Toxicol* 57:67-68.

9. REFERENCES

- Henninghausen G, Lange P, Merkord J. 1980. The relationship between the length of the alkyl chain of dialkyltin compounds and their effects on thymus and bile ducts in mice. *Arch Toxicol (Suppl 4)*:175-178.
- Hense S, Sparmann G, Weber H, et al. 2003. Immunologic characterization of acute pancreatitis in rats induced by dibutyltin dichloride (DBTC). *Pancreas* 27(1):6-12.
- *Hiles RA. 1974. Absorption, distribution and excretion of inorganic tin in rats. *Toxicol Appl Pharmacol* 27:366-379.
- Hioe KM, Jones JM. 1984. Effects of trimethyltin on the immune system of rats. *Toxicol Lett* 20:317-323.
- *Hodge VF, Seidel SL, Goldberg ED. 1979. Determination of tin(IV) and organotin compounds in natural waters, coastal sediments and macro algae by atomic absorption spectrometry. *Anal Chem* 51(8):1256-1259.
- Hoeffding V, Fechter LD. 1991. Trimethyltin disrupts auditory function and cochlear morphology in pigmented rats. *Neurotoxicol Teratol* 13:135-145.
- *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.
- *Hongxia L, Guolan H, Shugui D. 1998. Toxicity and accumulation of tributyltin chloride on tilapia. *Appl Organomet Chem* 12(2):109-119.
- Hosick TJ, Ingamells RL, Machemer SD. 2002. Determination of tin in soil by continuous hydride generation and inductively coupled plasma mass spectrometry. *Anal Chim Acta* 456(2):263-269.
- HSDB. 1989. Hazardous Substances Data Bank. National Library of Medicine, National Toxicology Information Program, Bethesda, MD. September 5, 1989.
- *HSDB. 2004. Tin. Environmental standards and regulations. Bethesda, MD: Hazardous Substances Data Bank. <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.htm>. January 6, 2004.
- *Huang J-H, Schwesig D, Matzner E. 2004. Organotin compounds in precipitation, fog and soils of a forested ecosystem in Germany. *Environ Pollut* 130(2):177-186.
- Hudzik TJ, McMillan DE. 1995. Drug effects on response-duration differentiation IV: Effects of trimethyltin. *Neurotoxicol Teratol* 17(6):665-671.
- Huggett RJ, Evan DA, MacIntyre WG, et al. 1996. Tributyltin concentrations in waters of the Chesapeake Bay. In: Chapman MA, Seligman PF, eds. *Organotin*. London, UK: Chapman & Hall, 459-473.
- IBT. 1972a. Acute dust inhalation toxicity study with biomet (tri-n-butyltin fluoride) in albino rats. Report to M and T Chemicals, Inc., Rahway, NJ, by Industrial Bio-Test Laboratories, Inc., Northbrook, IL. IBT No. N1368.

9. REFERENCES

- IBT. 1972b. Acute dust inhalation toxicity study with triphenyltin fluoride in albino rats. Report to M and T Chemicals, Inc., Rahway, NJ, by Industrial Bio-Test Laboratories, Inc., Northbrook, IL. IBT No. N1362.
- IBT. 1975. Acute vapor inhalation toxicity study with dibutyltin dichloride in rats. Report to M and T Chemicals, Inc., Rahway, NJ, by Industrial Bio-Test Laboratories, Inc., Northbrook, IL. IBT No. 66307183.
- IBT. 1976a. Acute vapor inhalation toxicity study with dimethyltin dichloride in rats. Report to M and T Chemicals, Inc., Rahway, NJ, by Industrial Bio-Test Laboratories, Inc., Northbrook, IL. IBT No. 8562-08285.
- IBT. 1976b. Acute vapor inhalation toxicity study with trimethyltin chloride in rats. Report to M and T Chemicals, Inc., Rahway, NJ, by Industrial Bio-Test Laboratories, Inc., Northbrook, IL. IBT No. 8562-08285.
- *Ichihashi H, Nakamura Y, Kannan K, et al. 2001. Multi-elemental concentrations in tissues of Japanese common squid (*Todarodes pacificus*). *Arch Environ Contam Toxicol* 41:483-490.
- *ICRP. 1981a. Report of the task group on reference man (Publication 23). International Commission on Radiological Protection. Oxford, GB: Pergamon Press, 319.
- *ICRP. 1981b. Metabolic data for tin. In: Limits for Intakes of Radionuclides by Workers (Publication 30: Part 3). International Commission on Radiological Protection. *Ann ICRP* 6(2/3):43-45.
- *ICRP. 1994. Human respiratory tract model for radiological protection. International Commission on Radiological Protection. ICRP Publication 66. *Ann ICRP* 24(1-3).
- *ICRP. 2001. The ICRP database of dose coefficients: Workers and members of the public. International Commission on Radiological Protection. Elsevier Science Ltd.
- *Igarashi I. 1959. [Experimental studies on butyl-tin poisoning through respiratory tract and its prevention and treatment.] *J Tokyo Med College* 17:1603-1632. (Japanese)
- Ikeda M, Kanai H, Akaike M, et al. 1996. Nitric oxide synthase-containing neurons in the hippocampus are preserved in trimethyltin intoxication. *Brain Res* 712:168-170.
- *IMO. 2004. IMO adopts convention on control of harmful anti-fouling systems on ships. IMO - International Maritime Organization. http://www.imo.org/Newsroom/mainframe.asp?topic_id=67&doc_id=1486. December 06, 2004.
- Inoue M, Ino Y, Gibo J, et al. 2002. The role of monocyte chemoattractant protein-1 in experimental chronic pancreatitis model induced by dibutyltin dichloride in rats. *Pancreas* 25(4):e64.
- *IRIS. 2005. Tributyltin oxide. Washington, DC: Integrated Risk Information System. <http://www.epa.gov/iris/>. January 6, 2005.
- IRPTC. 1989. International Register of Potentially Toxic Chemicals. United Nations Environment Programme, Geneva, Switzerland. September 1989.

9. REFERENCES

- Ishaaya I, Engel J, Casida J. 1976. Dietary triorganotins affect lymphatic tissues and blood composition of mice. *Pestic Biochem Physiol* 6:270-279.
- Ishida N, Akaike M, Tsutsumi S, et al. 1997. Trimethyltin syndrome as a hippocampal degeneration model: temporal changes and neurochemical features of seizure susceptibility and learning impairment. *Neuroscience* 81(4):1183-1191.
- *Ishikura N, Tsunashima K, Watanabe K, et al. 2001. Temporal change of hippocampal enkephalin and dynorphin mRNA following trimethyltin intoxication in rats: effect of anticonvulsant. *Neurosci Lett* 306:157-160.
- *Ishikura N, Tsunashima K, Watanabe K, et al. 2002. Neuropeptide Y and somatostatin participate differently in the seizure-generating mechanisms following trimethyltin-induced hippocampal damage. *Neurosci Res* 44(3):237-248.
- *ITA. 2003. U.S. Trade quick-reference tables: December 2002 imports. 293100: Organo-inorganic compounds, NESOI. International Trade Administration. <http://www.ita.doc.gov/td/industry/otea/Trade-Detail/Latest-December/Imports/29/293100.html>. June 25, 2003.
- *ITA. 2004. U.S. trade quick-reference tables: September 2004 imports. International Trade Association. <http://www.ita.doc.gov/td/industry/otea/Trade-Detail/Latest-Month/Imports/29/293100.html>. December 3, 2004.
- Itami T, Ema M, Murai T, et al. 1990. Teratogenic evaluation of tributyltin chloride in rats following oral exposure. *Drug Chem Toxicol* 13(4):283-295.
- Iwai H, Komatsu S, Manabe S, et al. 1982a. Butyltin metabolism in pregnant rats and fetuses in relation to placental transfer of butyltin compounds [Abstract]. *J Toxicol Sci* 7:272.
- Iwai H, Kurosawa M, Matsui H, et al. 1992. Inhibitory effects of organotin compounds on histamine release from rat serosal mast cells. *Ind Health* 30(2):77-84.
- *Iwai H, Wada O, Arakawa Y. 1981. Determination of tri-, di-, and monobutyltin and inorganic tin in biological materials and some aspects of their metabolism in rats. *J Anal Toxicol* 5:300-306.
- *Iwai H, Wada O, Arakawa Y, et al. 1982b. Intestinal uptake site, enterohepatic circulation, and excretion of tetra- and trialkyltin compounds in mammals. *J Toxicol Environ Health* 9:41-49.
- *Iwamoto I. 1960. [Experimental studies on the influence of butyltin poisoning through the respiratory tract upon the reproductive function.] *J Tokyo Med College* 18:1351-1376. (Japanese)
- *Jacobsen JA, Asmund G. 2000. TBT in marine sediments and blue mussels (*Mytilus edulis*) from central-west Greenland. *Sci Total Environ* 245:131-136.
- *Jang JJ, Takahashi M, Furukawa F, et al. 1986. Inhibitory effect of dibutyltin dichloride on pancreatic adenocarcinoma development by *n*-nitrosobis(2-oxopropyl)amine in the Syrian hamster. *Jpn J Cancer Res* 77:1091-1094.
- *Janssen PJM, Bosland MC, van Hees JP, et al. 1985. Effects of feeding stannous chloride on different parts of the gastrointestinal tract of the rat. *Toxicol Appl Pharmacol* 78:19-28.

9. REFERENCES

- Jaques WE, McAdams AJ. 1957. Reversible biliary cirrhosis in rat after partial ligation of common bile duct. *AMA Arch Pathol* 63:149-153.
- *Jenkins SM, Barone S. 2004. The neurotoxicant trimethyltin induces apoptosis via caspase activation, p38 protein kinase, and oxidative stress in PC12 cells. *Toxicol Lett* 147:63-72.
- Jensen KG, Andersen O, Ronne M. 1991a. Organotin compounds induce aneuploidy in human peripheral lymphocytes in vitro. *Mutat Res* 246:109-112.
- *Jensen KG, Onfelt A, Wallin M, et al. 1991b. Effects of organotin compounds on mitosis, spindle structure, toxicity and in vitro microtubule assembly. *Mutagenesis* 6(5):409-416.
- *Johanson CE. 1980. Permeability and vascularity of the developing brain: Cerebellum vs cerebral cortex. *Brain Res* 190:3-16.
- *Johnson MA, Greger JL. 1982. Effects of dietary tin on tin and calcium metabolism of adult males. *Am J Clin Nutr* 35:655-660.
- *Johnson MA, Greger JL. 1985. Tin, copper, iron and calcium metabolism of rats fed various dietary levels of inorganic tin and zinc. *J Nutr* 115:615-624.
- *Jonas L, Fulda G, Kröning G, et al. 2002. Electron microscopic detection of tin accumulation in biliopancreatic concrements after induction of chronic pancreatitis in rats by di-n-butyltin dichloride. *Ultrastruct Pathol* 26:89-98.
- *Jones-Lepp TL, Varner KE, Heggem D. 2004. Monitoring dibutyltin and triphenyltin in fresh waters and fish in the United States using micro-liquid chromatography-electrospray/ion trap mass spectrometry. *Arch Environ Contam Toxicol* 46(1):90-95.
- *Kaminski MD, Landsberger S. 2000a. Heavy metals in urban soils of East St. Louis, IL, Part 1: Total concentration of heavy metals in soils. *J Air Waste Manag Assoc* 50:1667-1679.
- Kaminski MD, Landsberger S. 2000b. Heavy metals in urban soils of East St. Louis, IL, Part II: Leaching characteristics and modeling. *J Air Waste Manag Assoc* 50:1680-1687.
- *Kannan K, Falandysz J. 1997. Butyltin residues in sediment, fish, fish-eating birds, harbour porpoise and human tissues from the Polish coast of the Baltic Sea. *Mar Pollut Bull* 34:203-207.
- Kannan K, Corsolini S, Focardi S, et al. 1996. Accumulation pattern of butyltin compounds in dolphin, tuna, and shark collected from Italian coastal waters. *Arch Environ Contam Toxicol* 31:19-23.
- *Kannan K, Guruge KS, Thomas NJ, et al. 1998a. Butyltin residues in southern sea otters (*Enhydra lutris nereis*) found dead along California coastal waters. *Environ Sci Technol* 32:1169-1175.
- *Kannan K, Kajiwara N, Watanabe M, et al. 2004. Profiles of polychlorinated biphenyl congeners, organochlorine pesticides, and butyltins in Southern sea otters and their prey. *Environ Toxicol Chem* 23(1):49-56.
- Kannan K, Senthilkumar K, Elliott JE, et al. 1998b. Occurrence of butyltin compounds in tissues of water birds and seaducks from the United States and Canada. *Arch Environ Contam Toxicol* 35:64-69.

9. REFERENCES

- *Kannan K, Senthilkumar K, Giesy JP. 1999. Occurrence of butyltin compounds in human blood. *Environ Sci Technol* 33:1776-1779.
- *Kannan K, Tanabe S, Tatsukawa R. 1995. Occurrence of butyltin residues in certain foodstuffs. *Bull Environ Contam Toxicol* 55:510-516.
- Kappas A, Maines MD. 1976. Tin: A potent inducer of heme oxygenase in kidney. *Science* 192:60-62.
- Karpiak VC, Eyer CL. 1999. Differential gliotoxicity of organotins. *Cell Biol Toxicol* 15(4):261-268.
- *Karrer D, Baroncelli S, Ciaralli L, et al. 1992. Effects of subchronic bis(tri-n-butyltin)oxide (TBTO) oral administration on haematological parameters in monkeys: a preliminary report. *Food Chem Toxicol* 30(8):715-718.
- *Karrer D, Baroncelli S, Turillazzi PG. 1995. Oral bis(tri-n-butyltin)oxide in pregnant mice II. Alterations in hematological parameters. *J Toxicol Environ Health* 46:369-377.
- Kato T, Uchikawa R, Yamada M, et al. 2004. Environmental pollutant tributyltin promotes Th2 polarization and exacerbates airway inflammation. *Eur J Immunol* 34(5):1312-1321.
- Kawanishi T, Asoh H, Kato T, et al. 1999. Suppression of calcium oscillation by tri-n-butyltin chloride in cultured rat hepatocytes. *Toxicol Appl Pharmacol* 155:54-61.
- Kassabi M, Braun JP, Burgat-Sacaze V, et al. 1981. Comparison of sodium and stannous fluoride nephrotoxicity. *Toxicol Lett* 7:463-467.
- *Kehoe RA, Cholak J, Story RV. 1940. A spectrochemical study of the normal ranges of concentration of certain trace metals in biological materials. *J Nutr* 19:579-592.
- *Keithly JC, Cardwell RD, Henderson DG. 1999. Tributyltin in seafood from Asia, Australia, Europe, and North America: Assessment of human health risks. *Hum Ecol Risk Assess* 5: 337-354.
- Kellner GL, Sherman LR. 1993. The gender toxicity of selected organotin compounds. *Microchem J* 47:67-71.
- *Kenaga EE, Goring CAI. 1980. Relationship between water solubility, soil sorption, octanol-water partitioning, and concentration of chemicals in biota. ASTM STP 707. In: Eaton JG, Parrish PR, Hendricks AC, eds. Philadelphia, PA: American Society for Testing and Materials, 78-115.
- Kergosien DH, Rice CD. 1998. Macrophage secretory function is enhanced by low doses of tributyltin-oxide (TBTO), but not tributyltin-chloride (TBTC1). *Arch Environ Contam Toxicol* 34(3):223-228.
- Kernan WJ, Hopper DL, Bowes MP. 1991. Computer pattern recognition: Spontaneous motor activity studies of rats following acute exposure to triethyltin. *J Am Coll Toxicol* 10(6):705-718.
- *Khaliq MA, Husain R, Seth PK, et al. 1991. Effect of dibutyltin dilaurate on regional brain polyamines in rats. *Toxicol Lett* 55:179-183.
- *Kimbrough RD. 1976. Toxicity and health effects of selected organotin compounds: A review. *Environ Health Perspect* 14:51-56.

9. REFERENCES

- *Kimmel EC, Fish RH, Casida JE. 1977. Bioorganotin chemistry. Metabolism of organotin compounds in microsomal monooxygenase systems and in mammals. *J Agric Food Chem* 25(1):1-9.
- Kinsora JJ, Smith ME, French J, et al. 1985. Attenuation of TMT induced neurotoxicity by chronic, continuous administration of scopolamine and muscimol [Abstract]. *Soc Neuroscience Abstr* 11:154.
- *Klaassen CD, Amdur MO, Doull J, eds. 1986. Casarett and Doull's toxicology: The basic science of poisons. New York, NY: Macmillan Publishing Company, 349, 351, 626-627.
- *Klimmer O. 1969. Die anwendung von organozinn-verbindungen in experimentell-toxikologischer sicht. *Arzneim Forsch* 19:934-939.
- *Kneip J, Crable V. 1988. Metals in urine - method 119. In: Methods for biological monitoring: A manual for assessing human exposure to hazardous substances. Washington, DC: American Public Health Association, 229-235.
- Kobayashi H, Suzuki T, Kasashima Y, et al. 1996. Effects of tri-, di- and monobutyltin on synaptic parameters of the cholinergic system in the cerebral cortex of mice. *Jpn J Pharmacol* 72(4):317-324.
- *Koczyk D. 1996. How does trimethyltin affect the brain: Facts and hypotheses. *Acta Neurobiol Exp (Warsz)* 56(2):587-596.
- *Koczyk D, Oderfeld-Nowak B. 2000. Long-term microglial and astroglial activation in the hippocampus of trimethyltin-intoxicated rat: stimulation of NGF and TrkA immunoreactivities in astroglia but not in microglia. *Int J Dev Neurosci* 18(6):591-606.
- Koczyk D, Jablonska B. 1998. Spatiotemporal changes in hippocampal NMDA receptor binding as a consequence of trimethyltin neurotoxicity in the rat. *Neurosci Lett* 251:29-32.
- *Komori M, Nishio K, Kitada M, et al. 1990. Fetus-specific expression of a form of cytochrome P-450 in human livers. *Biochemistry* 29:4430-4433.
- Konno N, Tsunoda M, Nakano K, et al. 2001. Effect of tributyltin on the N-methyl-D-aspartate (NMDA) receptors in the mouse brain. *Arch Toxicol* 75(9):549-554.
- *Krajnc EI, Wester PW, Loeber JG, et al. 1984. Toxicity of bis(tri-n-butyltin)oxide in the rat. I. Short-term effects on general parameters and on the endocrine and lymphoid systems. *Toxicol Appl Pharmacol* 75:363-386.
- *Kreyberg S, Torvik A, Bjorneboe A, et al. 1992. Trimethyltin poisoning: Report of a case with postmortem examination. *Clin Neuropathol* 11(5):256-259.
- *Krigman MR, Silverman AP. 1984. General toxicology of tin and its organic compounds. *Neurotoxicology* 5:129-140.
- *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.

9. REFERENCES

- *Krishnan K, Andersen ME, Clewell HJ III, 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.
- Krone CA, Stein JE, Varanasi U. 1996. Butyltin contamination of sediments and benthic fish from the East, Gulf and Pacific coasts of the United States. *Environ Monit Assess* 40:75-89.
- *Kroschwitz JI, Howe-Grant M, eds. 1997. Tin compounds. *Kirk-Othmer Encyclopedia of Chemical Technology*. Vol. 24: Thioglycolic Acid to Vinyl Polymers. New York, NY: John Wiley & Sons, 122-161.
- Krowke R, Bluth U, Neubert D. 1986. In vitro studies on the embryotoxic potential of (bis[tri-n-butyltin])oxide in a limb bud organ culture system. *Arch Toxicol* 58:125-129.
- Kuhlmann AC, Guilarte TR. 2000. Cellular and subcellular localization of peripheral benzodiazepine receptors after trimethyltin neurotoxicity. *J Neurochem* 74(4):1694-1704.
- *Kumasaka K, Miyazawa M, Fujimaki T, et al. 2002. Toxicity of the tributyltin compound on the testis in premature mice. *J Reprod Develop* 48(6):591-597.
- Kurita R, Hayashi K, Torimitsu K, et al. 2003. Continuous measurement of glutamate and hydrogen peroxide using a microfabricated biosensor for studying the neurotoxicity of tributyltin. *Anal Sci* 19(12):1581-1585.
- Kutscher CL. 1992. A morphometric analysis of trimethyltin-induced change in rat brain using the Timm technique. *Brain Res* 28(4):519-527.
- Laughlin RB Jr. 1996. Bioaccumulation of TBT by aquatic organisms. In: Champ MA, Seligman PF, eds. *Organotin*. London: Chapman & Hall, 331-355.
- *Laughlin RB Jr, Linden O. 1985. Fate and effects of organotin compounds. *Ambio* 14:88-94.
- Laughlin RB Jr, Guard HE, Coleman WM III. 1986. Tributyltin in seawater: speciation and octanol-water partition coefficient. *Environ Sci Technol* 20:210-214.
- Lavastre V, Girard D. 2002. Tributyltin induces human neutrophil apoptosis and selective degradation of cytoskeletal proteins by caspases. *J Toxicol Environ Health A* 65:1013-1024.
- *Leaversuch RL. 1999. Heat-stabilizer producers broaden lines for rigid PVC. *Mod Plast* 76(5):39-41.
- Lee KM, Appleton J, Cooke M, et al. 1999. Use of laser ablation inductively coupled plasma mass spectrometry to provide element versus time profiles in teeth. *Anal Chim Acta* 395:179-185.
- *Lee RF, Valkirs AO, Seligman PF. 1989. Importance of micro algae in the biodegradation of tributyltin in estuarine waters. *Environ Sci Technol* 23:1515-1518.
- *Leeder JS, Kearns GL. 1997. Pharmacogenetics in pediatrics: Implications for practice. *Pediatr Clin North Am* 44(1):55-77.
- Lehotzky K, Szeberenyi JM, Gonda Z, et al. 1982. Effects of prenatal triphenyl-tin exposure on the development of behavior and conditional learning in rat pups. *Neurobehav Toxicol Teratol* 4:247-250.

9. REFERENCES

- *Leung H-W. 1993. Physiologically-based pharmacokinetic modelling. In: Ballentine B, Marro T, Turner P, eds. General and applied toxicology. Vol. 1. New York, NY: Stockton Press, 153-164.
- Levine S, Saltzman A. 1996. Metallic tin-induced lymphadenopathy in rat strains and hybrids. *Biol Trace Elem Res* 52:303-308.
- Levy BS, Davis F, Johnson B. 1985. Respiratory symptoms among glass bottle makers exposed to stannic chloride solution and other potentially hazardous substances. *J Occup Med* 27:277-282.
- *Lewis RJ Sr, ed. 1997. Hawley's condensed chemical dictionary. 13th ed. New York, NY: John Wiley & Sons, Inc., 148, 359, 1123.
- *Lide, DR ed. 2000. CRC handbook of chemistry and physics. 81st ed. Boca Raton, FL: CRC Press LLC, 4-32, 4-93, 4-94.
- *Lin J-L, Hsueh S. 1993. Acute nephropathy of organotin compounds. *Am J Nephrol* 13(2):124-128.
- *Lin T-J, Hung D-Z, Kao C-H, et al. 1998. Unique cerebral dysfunction following triphenyltin acetate poisoning. *Hum Exp Toxicol* 17(7):403-405.
- Lipe GW, Ali SF, Newport GD, et al. 1991. Effect of trimethyltin on amino acid concentrations in different regions of the mouse brain. *Pharmacol Toxicol* 68:450-455.
- Lipscomb JC, Paule MG, Slikker W Jr. 1989. The disposition of carbon-14 trimethyltin in the pregnant rat and fetus. *Neurotoxicol Teratol* 11:185-192.
- *Liu Y, Fechter LD. 1995. Trimethyltin disrupts loudness recruitment and auditory threshold sensitivity in guinea pigs. *Neurotoxicol Teratol* 17:281-287.
- Liu S-H, Lin-Shiau S-Y. 1994. Studies on the contracture inducing action of triphenyltin in the mouse diaphragm. *Eur J Pharmacol* 292:95-101.
- *Livingston, AL. 1978. Forage plant estrogens. *J Toxicol Environ Health* 4:301-324.
- Llobet JM, Granero S, Schuhmacher M, et al. 1998. Biological monitoring of environmental pollution and human exposure to metals in Tarragona, Spain. II. Levels in autopsy tissues. *Trace Elelctrolytes* 15(1):44-49.
- *Lo S, Allera A, Albers P, et al. 2003. Dithioerythritol (DTE) prevents inhibitory effects of triphenyltin (TPT) on the key enzymes of the human sex steroid hormone metabolism. *J Steroid Biochem Mol Biol* 84(5):569-576.
- *Loganathan BG, Kannan K, Senthilkumar K, et al. 1999. Butyltin concentrations in sediment and mussel tissues from the lowermost Tennessee River and Kentucky Lake. *Am Chem Soc Abstr Pap: Division of Environmental Chemistry Preprints of Extended Abstracts: 217th Acs Nat Meet*, 39:78-81.
- *Looser PW, Bertschi S, Fent K. 1998. Bioconcentration and bioavailability of organotin compounds: influence of pH and humic substances. *Appl Organomet Chem* 12:601-611.

9. REFERENCES

- Louria DB, Joselow MM, Browder AA. 1972. The human toxicity of certain trace elements. *Ann Intern Med* 76:307-319.
- Lubin JH, Qiano Y, Taylor PR, et al. 1990. Quantitative evaluation of the radon and lung cancer association in a case control study of Chinese tin miners. *Cancer Res* 50:174-180.
- Luebke B, Barone S, Copeland C, et al. 2003. Developmental exposure to di-n-butyltin dichloride (DBTC): immunotoxic and neurotoxic evaluation. *Toxicologist* 72(S-1):374.
- *Luijten J, Klimmer O. 1978. [A toxicological assessment of organotin compounds.] In: Smith PJ, ed. *Toxicological data on organotin compounds*. D. Appendix. Middlesex, England: International Tin Research Institute, 11-20. ITRI Publication No. 538. (German)
- *Lyle WH. 1958. Lesions of the skin in process workers caused by contact with butyltin compounds. *Br J Ind Med* 15:193-196.
- MacPhail RC, O'Callaghan JP, Cohn J. 2003. Acquisition, steady-state performance, and the effects of trimethyltin on the operant behavior and hippocampal GFAP of Long-Evans and Fischer 344 rats. *Neurotoxicol Teratol* 25(4):481-490.
- *Magee PN, Stoner HB, Barnes JM. 1957. The experimental production of oedema in the central nervous system of the rat by triethyltin compounds. *J Pathol Bacteriol* 73:107-124.
- Maguire RJ. 1984. Transformation of tributyltin species in Toronto harbor sediment. *Am Chem Soc, Div Environ Chem* 24:75-77.
- Maguire RJ. 1996. Tributyltin in Canadian waters. In: Chapman MA, Seligman PF, eds. *Organotin*. London, UK: Chapman & Hall, 535-557.
- *Maguire RJ, Huneault H. 1981. Determination of butyltin species in water by gas chromatography with flame photometric detection. *J Chromatogr* 209:458-462.
- *Maguire RJ, Tkacz RJ. 1985. Degradation of the tri-n-butyltin species in water and sediment from Toronto Harbor. *J Agric Food Chem* 33:947-953.
- *Maguire RJ, Carey JH, Hale EJ. 1983. Degradation of the tri-n-butyltin species in water. *J Agric Food Chem* 31:1060-1065.
- *Maguire RJ, Tkacz RJ, Sartor DL. 1985. Butyltin species and inorganic tin in water and sediment of the Detroit and St. Clair Rivers. *J Great Lakes Res* 11:320-327.
- *Maguire RJ, Wong PTS, Rhamey JS. 1984. Accumulation and metabolism of tri-n-butyltin cation by a green alga, *Ankistrodesmus falcatus*. *Can J Fish Aquatic Sci* 41:537-540.
- *Maier WE, Brown HW, Tilson HA, et al. 1995. Trimethyltin increases interleukin (IL)-1 alpha, IL-6 and tumor necrosis factor alpha mRNA levels in rat hippocampus. *J Neuroimmunol* 59:65-75.
- Mailhot G, Bolte M. 1998. Tributyltin degradation photoinduced by iron (III) in aqueous solution. *Am Chem Soc Abstr Pap, Div Environ Chem Preprints of Extended Abstracts* 38:94-95.

9. REFERENCES

- *Makita Y, Omura M, Ogata R. 2004. Effects of perinatal simultaneous exposure to tributyltin (TBT) and *p,p'*-DDE (1,1-dichloro-2,2-bis(p-chlorophenyl) ethylene) on male offspring of Wistar rats. *J Toxicol Environ Health A* 67(5):385-395.
- *Makita Y, Tanaka A, Omura M, et al. 2003. Effects of simultaneous administration of tributyltin (TBT) and *p,p'*-DDE on female offspring of Wistar rats. *J Toxicol Environ Health A* 66:2337-2347.
- Manzo L, Richelmi P, Sabbioni E, et al. 1981. Poisoning by triphenyltin acetate. Report of two cases and determination of tin in blood and urine by neutron activation analysis. *Clin Toxicol* 18:1343-1353.
- Marinovich M, Viviani B, Corsini E, et al. 1996. NF- κ B activation by triphenyltin triggers apoptosis in HL-60 cells. *Exp Cell Res* 226:98-104.
- Marinovich M, Viviani B, Galli CL. 1990. Reversibility of tributyltin-chloride-induced protein synthesis inhibition after ATP recovery in HEL-30 cells. *Toxicol Lett* 52:311-317.
- Marinovich M, Viviani B, Galli CL. 1997. Actin modifications and calcium homoeostasis in neurotoxicity. The case of organotin salts. *Toxicol in Vitro* 11:499-503.
- Martin F, Corrigan FM, Donard OFX, et al. 1997. Organotin compounds in trimethyltin-treated rats and in human brain in Alzheimer's disease. *Hum Exp Toxicol* 16:512-515.
- *Martin MB, Reiter R, Pham T, et al. 2003. Estrogen-like activity of metals in Mcf-7 breast cancer cells. *Endocrinology* 144(6):2425-2436.
- *Matsuda R, Suzuki T, Saito Y. 1993. Metabolism of tri-n-butyltin chloride in male rats. *J Agric Food Chem* 41(3):489-495.
- Matsui H, Wada O, Manabe S, et al. 1984. Species difference in sensitivity to the diabetogenic action of triphenyltin hydroxide. *Experientia* 40:377-378.
- Matsuoka M, Igisu H. 1996. Induction of *c-fos* expression by tributyltin in PC12 cells: involvement of intracellular Ca²⁺. *Environ Toxicol Pharmacol* 2:373-380.
- *Mayr U, Butsch A, Schneider S. 1992. Validation of two in vitro test systems for estrogenic activities with zearalenone, phytoestrogens and cereal extracts. *Toxicology* 74:135-149.
- *McCann MJ, O'Callaghan JP, Martin PM, et al. 1996. Differential activation of microglia and astrocytes following trimethyl tin-induced neurodegeneration. *Neuroscience* 72(1):273-281.
- McCollister DD, Schober AE. 1975. Assessing toxicological properties of organotin compounds. *Environ Qual Saf* 4:80-95.
- *McLean JRN, Blakey DH, Douglas GR, et al. 1983. The effect of stannous and stannic (tin) chloride on DNA in Chinese hamster ovary cells. *Mutat Res* 119:195-201.
- McMillan DE, Wenger GR. 1985. Neurobehavioral toxicology of trialkyltins. *Pharmacol Rev* 37:365-379.
- *McPherson CA, Kubik J, Wine RN, et al. 2003. Alterations in cyclin A, B, and D1 in mouse dentate gyrus following TMT-induced hippocampal damage. *Neurotox Res* 5(5):339-354.

9. REFERENCES

- *McVey MJ, Cooke GM. 2003. Inhibition of rat testis microsomal 3beta-hydroxysteroid dehydrogenase activity by tributyltin. *J Steroid Biochem Mol Biol* 86(1):99-105.
- Meador JP. 1998. Bioavailability of tributyltin in marine sediment: A laboratory study. *Am Chem Soc Abstr Pap, Div Environ Chem Preprints of Extended Abstracts* 38:115-117.
- *Meador JP. 2000. Predicting the fate and effects of tributyltin in marine systems. *Rev Environ Contam Toxicol* 166:1-48.
- *Mehta PS, Brucolieri A, Brown HW, et al. 1998. Increase in brain stem cytokine mRNA levels as an early response to chemical-induced myelin edema. *J Neuroimmunol* 88:154-164.
- Meo SA, Al-Khlaiwi T. 2003. Health hazards of welding fumes. *Saudi Med J* 24(11):1176-1182.
- *Meranger J-C. 1975. Alcoholic beverages: A rapid screening method for the determination of di-(n-octyl) tin stabilizers in alcoholic beverages, using a heated graphite atomizer. *J Assoc Off Anal Chem* 58(6):1143-1146.
- *Merkord J, Hennighausen G. 1989. Acute pancreatitis and bile duct lesions in rat induced by dibutyltin dichloride. *Exp Pathol* 36:59-62.
- *Merkord J, Jonas L, Weber H, et al. 1997. Acute interstitial pancreatitis in rats induced by dibutyltin dichloride (DBTC): Pathogenesis and natural course of lesions. *Pancreas* 15(4):392-401.
- Merkord J, Weber H, Jonas L, et al. 1998. The influence of ethanol on long-term effects of dibutyltin dichloride (DBTC) in pancreas and liver of rats. *Hum Exp Toxicol* 17:144-150.
- *Merkord J, Weber H, Kroning G, et al. 2000. Antidotal effects of 2,3-dimercaptopropane-1-sulfonic acid (DMPS) and meso-2,3-dimercaptosuccinic acid (DMSA) on the organotoxicity of dibutyltin dichloride (DBTC) in rats. *Hum Exp Toxicol* 19:132-137.
- *Merkord J, Weber H, Kröning G, et al. 2001. Repeated administration of a mild acute toxic dose of di-n-butyltin dichloride at intervals of 3 weeks induces severe lesions in pancreas and liver of rats. *Hum Exp Toxicol* 20:386-392.
- Merkord J, Weber H, Sparmann G, et al. 1999. The course of pancreatic fibrosis induced by dibutyltin dichloride (DBTC). *Ann N Y Acad Sci* 880:231-237.
- Messing RB, Devauges V, Sara SJ. 1992. Limbic forebrain toxin trimethyltin reduces behavioral suppression by clonidine. *Pharmacol Biochem Behav* 42:313-316.
- Michel P, Averty B. 1999. Distribution and fate of tributyltin in surface and deep waters of the northwestern Mediterranean. *Environ Sci Technol* 33:2524-2528.
- Middleton MC, Pratt I. 1977. Skin water content as a quantitative index of the vascular and histologic changes produced in rat skin by di-*n*-butyltin and tri-*n*-butyltin. *J Invest Dermatol* 68:379-384.
- Middleton MC, Pratt I. 1978. Changes in incorporation of [³H]thymidine into DNA of rat skin following cutaneous application of dibutyltin, tributyltin and 1-chloro-2:4-dinitrobenzene and the relationship of these changes to a morphological assessment of the cellular damage. *J Invest Dermatol* 71:305-310.

9. REFERENCES

- Miller DB. 1984. Pre- and postweaning indices of neurotoxicity in rats: Effects of triethyltin (TET). *Toxicol Appl Pharmacol* 72:557-565.
- *Miller DB, O'Callaghan JP. 1984. Biochemical, functional and morphological indicators of neurotoxicity: Effects of acute administration of trimethyltin to the developing rat. *J Pharmacol Exp Ther* 231:744-751.
- *Miller K, Maisey J, Nicklin S. 1986. Effect of orally administered dioctyltin dichloride on murine immunocompetence. *Environ Res* 39:434-441.
- *Mizuhashi S, Ikegaya Y, Matsuki N. 2000a. Cytotoxicity of tributyltin in rat hippocampal slice cultures. *Neurosci Res* 38:35-42.
- *Mizuhashi S, Ikegaya Y, Nishiyama N, et al. 2000b. Cortical astrocytes exposed to tributyltin undergo morphological changes in vitro. *Jpn J Pharmacol* 84(3):339-346.
- *Monnet-Tschudi F, Zurich MG, Pithon E, et al. 1995a. Microglial responsiveness as a sensitive marker for trimethyltin (TMT) neurotoxicity. *Brain Res* 690:8-14.
- *Monnet-Tschudi F, Zurich M-G, Riederer BM, et al. 1995b. Effects of trimethyltin (TMT) on glial and neuronal cells in aggregate cultures: Dependence on the developmental stage. *Neurotoxicology* 16:97-104.
- Monperrus M, Martin-Doimeadios RCR, Scancar J, et al. 2003. Simultaneous sample preparation and species-specific isotope dilution mass spectrometry analysis of monomethylmercury and tributyltin in a certified oyster tissue. *Anal Chem* 75(16):4095-4102.
- Moody RP, Chu I. 1995. Dermal exposure to environmental contaminants in the Great Lakes. *Environ Health Perspect Suppl* 103:103-114.
- *Mori Y, Iesato K, Ueda S, et al. 1984. Renal tubular disturbances induced by tributyl-tin oxide in guinea pigs: A secondary Fanconi syndrome. *Clin Nephrol* 21:118-128.
- *Morselli PL, Franco-Morselli R, Bossi L. 1980. Clinical pharmacokinetics in newborns and infants: Age-related differences and therapeutic implications. *Clin Pharmacokin* 5:485-527.
- Moser VC. 1996. Rat strain- and gender-related differences in neurobehavioral screening: acute trimethyltin neurotoxicity. *J Toxicol Environ Health* 47:567-586.
- *Mumma RO, Raupach DC, Waldman JP, et al. 1984. National survey of elements and other constituents in municipal sewage sludges. *Arch Environ Contam Toxicol* 13:75-83.
- Mundy WR, Freudenrich TM. 2004. Organotin-induced apoptosis in cerebellar granule cells: signaling through the map kinase pathway. *J Neurochem* 85(1):33.
- *Muñoz J, Baena JR, Gallego M, et al. 2004. Speciation of butyltin compounds in marine sediments by preconcentration on C60 and gas chromatography-mass spectrometry. *J Chromatogr A* 1023(2):175-181.

9. REFERENCES

- *Mushak P, Krigman MR, Mailman RB. 1982. Comparative organotin toxicity in the developing rat: Somatic and morphological changes and relationship to accumulation of total tin. *Neurobehav Toxicol Teratol* 4:209-215.
- *Mushtaq M, Mukhtar H, Datta K, et al. 1981. Toxicological studies of a leachable stabilizer di-*n*-butyltin dilaurate (DBTL): Effects on hepatic drug metabolizing enzyme activities. *Drug Chem Toxicol* 4:75-88.
- *Naalsund LU, Fonnum F. 1986. The effect of trimethyltin on three glutameric and gabaergic transmitter parameters in vitro: High affinity uptake, release and receptor binding. *Neurotoxicology* 7:53-62.
- Nagashio Y, Hirohata Y, Akiyama T, et al. 2002. Dibutyltin dichloride modifies amylase release from isolated rat pancreatic acini. *Pancreas* 25(1):57-62.
- *Nakajima Y, Sato G, Ohno S, et al. 2003. Organotin compounds suppress testosterone production in Leydig cells from neonatal pig testes. *J Health Sci* 49(6):514-519.
- *Nakamura T, Noda T, Saitoh H, et al. 1993. Determination of di- and mono-*n*-butyltin compounds in fetuses and some organs from pregnant rats treated with di-*n*-butyltin diacetate. *Jpn J Toxicol Environ Health (Eisei Kagaku)* 39(3):219-225.
- *NAS. 1977. Tin. Drinking water and health. Washington, DC: National Academy Press, 292-296, 315.
- *NAS. 1980. Tin. Mineral tolerance of domestic animals. Washington, DC: National Academy of Sciences, 491-509.
- *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.
- *NATICH. 1989. National Air Toxics Information Clearinghouse: NATICH data base report on state, local and EPA air toxics activities. Report to U.S. Environmental Protection Agency, Research Triangle Park, NC, by Radian Corporation, Austin, TX. EPA45038929.
- Navio JA, Marchena FJ, Cerrillos C. 1993. UV photolytic degradation of butyltin chlorides in water. *J Photochem Photobiol A* 71:97-102.
- *NCI. 1978a. Bioassay of dibutyltin diacetate for possible carcinogenicity. Bethesda, MD: National Cancer Institute, Division of Cancer Cause and Prevention. NCI-CG-TR-183.
- *NCI. 1978b. Bioassay of triphenyltin hydroxide for possible carcinogenicity. Bethesda, MD: National Cancer Institute, Division of Cancer Cause and Prevention. NCI-CG-TR 139. PB287399.
- Negri AP, Smith LD, Webster NS, et al. 2002. Understanding ship-grounding impacts on a coral reef: potential effects of anti-foulant paint contamination on coral recruitment. *Mar Pollut Bull* 44:111-117.
- Nendza M, Herbst T, Kussatz C, et al. 1997. Potential for secondary poisoning and biomagnification in marine organisms. *Chemosphere* 35:1875-1885.

9. REFERENCES

- Neubert D, Blankenburg G, Chahoud I, et al. 1986. Results of *in vivo* and *in vitro* studies for assessing prenatal toxicity. Environ Health Perspect 70:89-103.
- Nicklin S, Robson MW. 1988. Organotins: Toxicology and biological effects. Appl Organomet Chem 2:487-508.
- *Nielsen JB, Strand J. 2002. Butyltin compounds in human liver. Environ Res 88(2):129-133.
- Niitykoski M, Lappalainen R, Jolkonen J, et al. 1998. Systemic administration of atipamezole, a selective antagonist of alpha-d adrenoceptors, facilitates behavioural activity but does not influence short-term or long-term memory in trimethyltin-intoxicated and control rats. Neurosci Biobehav Rev 22(6):735-750.
- Nikonorow M, Mazur H, Piekacz H. 1973. Effect of orally administered plasticizers and polyvinyl chloride stabilizers in the rat. Tox Appl Pharmacol 26:253-259.
- *Nilsberth C, Kostyszyn B, Luthman J. 2002. Changes in APP, PS1 and other factors related to Alzheimer's disease pathophysiology after trimethyltin-induced brain lesion in the rat. Neurotox Res 4(7-8):625-636.
- *NIOSH. 1976. Criteria for a recommended standard-occupational exposure to organotin compounds. Cincinnati, OH: National Institute for Occupational Safety and Health. NIOSH-77-115. PB274766.
- NIOSH. 1977. A recommended standard for occupational exposure to organotin compounds. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health.
- *NIOSH. 1984a. 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. 1984b. Organotin compounds (as Sn) - method 5504. In: NIOSH manual of analytical methods. Vol. 2. 3rd ed. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 84-100.
- NIOSH. 1988. NIOSH recommendations for occupational safety and health standards. Morbidity and mortality weekly report. [Supplement] Vol. 37:5-7. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health.
- *NIOSH. 1990. Pocket guide to chemical hazards. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, 212-215.
- *NIOSH. 1994a. Metals in urine-method 8310. In: NIOSH manual of analytical methods 4th ed. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH). August 1994. <http://www.cdc.gov/niosh/nmam/pdfs/8310.pdf>. June 30, 2003.
- *NIOSH. 1994b. Organotin compounds (as Sn) - method 5504. In: NIOSH manual for analytical methods. 4th ed. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH). August 1994. <http://www.cdc.gov/niosh/nmam/pdfs/5504.pdf>. June 30, 2003.

9. REFERENCES

- *NIOSH. 2002. Methyltin chlorides - method 5526, issue 1. NIOSH Manual of Analytical Methods (NMAM). National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/nmam/pdfs/5526.pdf>. June 30, 2003.
- *NIOSH. 2003a. NIOSH pocket guide to chemical hazards. Stannic oxide. Washington, DC: National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/npg/npg.html>. June 6, 2003.
- *NIOSH. 2003b. NIOSH pocket guide to chemical hazards. Tin. Washington, DC: National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/npg/npg.html>. June 6, 2003.
- *NIOSH/OSHA. 1981. Occupational health guideline for inorganic tin compounds (as tin). Occupational Health Guidelines for Chemical Hazards. Washington, DC: National Institute for Occupational Safety and Health/Occupational Safety and Health Administration. NIOSH Publication No. 81-123.
- Nishida H, Matsui H, Nagai H. 1992. Effect of triphenyltin chloride on the release of histamine from mast cells. *Arch Toxicol* 66(7):514-517.
- Nishida H, Matsui H, Sugiura H, et al. 1990. The immunotoxicity of triphenyltin chloride in mice. *J Pharmacobiodyn* 13(9):543-548.
- Nishikimi A, Kira Y, Kasahara E, et al. 2001. Tributyltin interacts with mitochondria and induces cytochrome c release. *Biochem J* 356(2):621-626.
- Nishimura T, Schwarzer C, Furtinger S, et al. 2001. Changes in the GABA-ergic system induced by trimethyltin application in the rat. *Mol Brain Res* 97:1-6.
- *Nishioka H. 1975. Mutagenic activities of metal compounds in bacteria. *Mutat Res* 31:185-189.
- NLM. 1989. Chemline. National Library of Medicine, Bethesda, MD. September 5, 1989.
- Noda T, Morita S. 1994. Teratogenicity study of dimethylin dichloride in rats. *J Toxicol Sci* 19(4):366.
- Noda T, Morita S, Baba A. 1993. Teratogenic effects of various di-n-butyltins with different anions and butyl(3-hydroxybutyl)tin dilaurate in rats. *Toxicology* 85:149-160.
- *Noda T, Morita S, Baba A. 1994. Enhanced teratogenic activity of di-n-butyltin diacetate by carbon tetrachloride pretreatment in rats. *Food Chem Toxicol* 32(4):321-327.
- *Noda T, Morita S, Yamano T, et al. 1991a. Effects of triphenyltin acetate on pregnancy in rats by oral administration. *Toxicol Lett* 56:207-212.
- *Noda T, Morita S, Yamano T, et al. 1991b. Teratogenicity study of tri-n-butyltin acetate in rats by oral administration. *Toxicol Lett* 55:109-115.
- Noda T, Nakamura T, Shimizu M, et al. 1992a. Critical gestational day of teratogenesis by di-n-butyltin diacetate in rats. *Bull Environ Contam Toxicol* 49(5):715-722.
- Noda T, Shimizu M, Yamano T, et al. 1991c. A teratogenicity study of organotin compounds: effects of single and consecutive doses of di-n-butyltin diacetate on rat fetuses. *Jpn J Pharmacol* 55:301.

9. REFERENCES

*Noda T, Yamano T, Shimizu M, et al. 1992b. Comparative teratogenicity of di-*n*-butyltin diacetate with n-butyltin trichloride in rats. *Arch Environ Contam Toxicol* 23:216-222.

Noda T, Yamano T, Shimizu M. 2001. Effects of maternal age on teratogenicity of di-*n*-butyltin diacetate in rats. *Toxicology* 167:181-189.

*NOES. 1989. National Occupational Exposure Survey. Cincinnati, OH: National Institute of Occupational Safety and Health. October 18, 1989.

NOHS. 1989. National Occupational Hazard Survey. Cincinnati, OH: National Institute of Occupational Safety and Health. October 18, 1989.

*Nolan CC, Brown AW, Cavanagh JB. 1990. Regional variations in nerve cell responses to trimethyltin intoxication in Mongolian gerbils and rats; further evidence for involvement of the Golgi apparatus. *Acta Neuropathol* 81:204-212.

*Noland EA, Taylor DH, Bull RJ. 1982. Monomethyl- and trimethyltin compounds induce learning deficiencies in young rats. *Neurobehav Toxicol Teratol* 4:539-544.

Noraberg J, Gramsbergen JB, Fonnum F, et al. 1998. Trimethyltin (TMT) neurotoxicity in organotypic rat hippocampal slice cultures. *Brain Res* 783:305-315.

*NRC. 1993. Pesticides in the diets of infants and children. Washington, DC: National Academy Press. National Research Council.

*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.

Nriagu JO. 1988. A silent epidemic of environmental metal poisoning? *Environ Pollut* 50:139-161.

*Nriagu JO, Pacyna JM. 1988. Quantitative assessment of worldwide contamination of air, water and soils by trace metals. *Nature* 333:134-139.

NTP. 1982. Technical report series no. 231 on the carcinogenesis bioassay of stannous chloride (CAS No. 7772-99-8) in F344/N rats and B6C3F1/N mice (feed study) Research Triangle Park, NC: National Toxicology Program. U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. NIH Publication No. 82-1887.

*O'Callaghan JP, Miller DB. 1988a. Acute exposure of the neonatal rat to tributyltin results in decreases in biochemical indicators of synaptogenesis and myelinogenesis. *J Pharmacol Exp Ther* 246:394-402.

O'Callaghan JP, Miller DB. 1988b. Acute exposure of the neonatal rat to triethyltin results in persistent changes in neurotypic and gliotypic proteins. *J Pharmacol Exp Ther* 244:368-378.

O'Connell A, Earley B, Leonard BE. 1994. Changes in muscarinic (M₁ and M₂ subtypes) and phenocyldine receptor density in the rat brain following trimethyltin intoxication. *Neurochem Int* 25(3):243-252.

9. REFERENCES

- O'Connell AW, Strada O, Earley B, et al. 1997. Altered expression of amyloid protein precursor mRNA in the rat hippocampus following trimethyltin intoxication: An *in situ* hybridization. *Neurochem Int* 30(3):313-320.
- *Odman-Ghazi SO, Hatcher F, Whalen MM. 2003. Expression of functionally relevant cell surface markers in dibutyltin-exposed human natural killer cells. *Chem Biol Interact* 146(1):1-18.
- *Ogata R, Omura M, Shimasaki Y, et al. 2001. Two-generation reproductive toxicity study of tributyltin chloride in female rats. *J Toxicol Environ Health* 63(2):127-144.
- Ohhira S, Matsui H. 1992. Application of gas chromatographic determination of organotin compounds to basic research on the metabolism of triphenyltin chloride in rats. *J Anal Toxicol* 16:375-380.
- *Ohhira S, Matsui H. 1993a. Gas chromatographic determination of inorganic tin in rat urine after a single oral administration of stannous chloride and mono-, di-, and triphenyltin chloride. *J Chromatogr* 622:173-178.
- *Ohhira S, Matsui H. 1993b. Metabolism of diphenyltin compound in rat liver after a single oral administration of diphenyltin dichloride. *J Agric Food Chem* 41(4):607-609.
- *Ohhira S, Matsui H. 1996. Comparative study of the metabolism of triphenyltin in hamsters and rats after a single oral treatment with triphenyltin chloride. *Toxicol Lett* 85:3-8.
- *Ohhira S, Matsui H. 2003. Metabolism of a tetraphenyltin compound in rats after a single oral dose. *J Appl Toxicol* 23:31-35.
- *Ohhira S, Matsui H, Nitta K. 1996. Subchronic study of the metabolism of triphenyltin in hamsters. *Vet Hum Toxicol* 38(3):206-209.
- *Ohhira S, Matsui H, Watanabe K. 1999. Effects of pretreatment with cytochrome P-450 inducers, especially phenobarbital on triphenyltin metabolism and toxicity in hamsters. *Toxicology* 137(3):151-159.
- *Ohhira S, Matsui H, Watanabe K. 2000. Effects of pretreatment with SKF-525A on triphenyltin metabolism and toxicity in mice. *Toxicol Lett* 117(3):145-150.
- *Ohhira S, Watanabe M, Matsui H. 2003. Metabolism of tributyltin and triphenyltin by rat, hamster and human hepatic microsomes. *Arch Toxicol* 77(3):138-144.
- *Ohhira S, Watanabe M, Matsui H. 2004. Identification of principal cytochrome P-450 in triphenyltin metabolism in rats. *Toxicol Lett* 148:141-148.
- *Okada Y, Oyama Y, Chikahisa L, et al. 2000. Tri-n-butyltin-induced change in cellular level of glutathione in rat thymocytes: a flow cytometric study. *Toxicol Lett* 117:123-128.
- Omae I. 2003a. Organotin antifouling paints and their alternatives. *Appl Organomet Chem* 17(2):81-105.
- Omae I. 2003b. General aspects of tin-free antifouling paints. *Chem Rev* 103(9):3431-3448.

9. REFERENCES

- *Omura M, Ogata R, Kubo K, et al. 2001. Two-generation reproductive toxicity study of tributyltin chloride in male rats. *Toxicol Sci* 64:224-232.
- Omura M, Shimasaki Y, Oshima Y, et al. 2002. Distribution of tributyltin metabolites in the liver and brain of rats-- evaluation in two-generation toxicity study of tributyltin chloride. *Environ Sci (Tokyo)* 9:201.
- *Opacka J, Sparrow S. 1985. Nephrotoxic effect of trimethyltin in rats. *Toxicol Lett* 27:97-102.
- *ORTEPA. 2004. Homepage of the ORTEP. Organotin Environmental Programme Association. <http://www.ortepa.org/index.htm>. December 09, 2004.
- ORTEPA. 1987. Organotin-Environmental-Programme-Association, Proceedings of a Workshop, Toxicology and Analytics of the Tributyltins-The Present Status, May 15-16, 1986. Berlin.
- *OSHA. 1989. U.S. Department of Labor. Occupational Safety and Health Administration: Part III. Fed Regist 54:2954-2955.
- *OSHA. 2003a. Occupational safety and health standards. Limits for air contaminants. Washington, DC: Occupational Safety and Health Administration. 29 CFR 1910.1000, Table Z-1. <http://www.osha.gov/comp-links.html>. June 6, 2003.
- *OSHA. 2003b. Occupational safety and health standards for shipyard employment. Air contaminants. Washington, DC: Occupational Safety and Health Administration. 29 CFR 1915.1000. <http://www.osha.gov/comp-links.html>. June 6, 2003.
- *OSHA. 2003c. Safety and health regulations for construction. Gases, vapors, fumes, dusts, and mists. Washington, DC: Occupational Safety and Health Administration. 29 CFR 1926.55, Appendix A. <http://www.osha.gov/comp-links.html>. June 6, 2003.
- *Oshiro Y, Piper CE, Balwierz PS, et al. 1991. Chinese hamster ovary cell assays for mutation and chromosome damage: Data from non-carcinogens. *J Appl Toxicol* 11:167-177.
- *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.
- Oyama Y. 1992. Modification of voltage-dependent sodium current triphenyltin, an environmental pollutant, in isolated mammalian brain neurons. *Brain Res* 583:93-99.
- *Oyama Y, Arata T, Chikahisa L, et al. 2003. Effects of A23187 and CaCl₂ on tri-n-butyltin-induced cell death in rat thymocytes. *Environ Toxicol Pharmacol* 13(1):29-36.
- *Oyama Y, Chikahisa L, Tomiyoshi F, et al. 1991. Cytotoxic action of triphenyltin on mouse thymocytes: A flow-cytometric study using fluorescent dyes for membrane potential and intracellular calcium. *Jpn J Pharmacol* 57:419-242.
- Oyama Y, Ueha T, Hayashi A. 1993. Effect of tri-n-butyltin on intracellular Ca²⁺ concentration of rat cerebellar neurons. *Eur J Pharmacol* 248:89-93.
- *Oyama Y, Ueha T, Hayashi A, et al. 1994. Effect of tri-n-butyltin on intracellular Ca²⁺ concentration of mouse thymocytes under Ca²⁺-free condition. *Eur J Pharmacol* 270:137-142.

9. REFERENCES

*Pader M. 1993. Dentifrices. In: Kroschwitz JI, Howe-Grant M, eds. Kirk-Othmer encyclopedia of chemical technology. New York, NY: John Wiley & Sons, 7:1023-1030.

Page DS. 1995. A six-year monitoring study of tributyltin and dibutyltin in mussel tissues from the Lynher River, Tamar Estuary, UK. *Mar Pollut Bull* 30:746-749.

*Page DS, Ozbal CC, Lanphear ME. 1996. Concentration of butyltin species in sediments associated with shipyard activity. *Environ Pollut* 91:237-243.

Panne U, Neuhauser RE, Theisen M, et al. 2001. Analysis of heavy metal aerosols on filters by laser-induced plasma spectroscopy. *Spectrochim Acta, Part B* 56B(6):839-850.

Parfett CLJ, Pilon R. 1993. Tri-*n*-butyltin chloride promotes morphological transformation and induces proliferin expression in C3H10T1/2 cells. *Cancer Lett* 71:167-176.

*Park J, Presley BJ. 1997. Trace metal contamination of sediments and organisms from the Swan Lake area of Galveston Bay. *Environ Pollut* 98:209-221.

*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.

Patel M, Ardel BK, Yim GKW, et al. 1990. Interaction of trimethyltin with hippocampal glutamate. *Neurotoxicology* 11:601-608.

*Patterson TA, Eppler B, Dawson R Jr. 1996. Attenuation of trimethyltin-evoked glutamate (GLU) efflux from rat cortical and hippocampal slices. *Neurotoxicol Teratol* 18(6):697-702.

Paule MG, Slikker W Jr. 1984. Developmental toxicity of prenatal trimethyltin chloride (TMT) exposure in the rat. *Teratology* 29:504.

Paule MG, Reuhl K, Chen JJ, et al. 1986. Developmental toxicology of trimethyltin in the rat. *Toxicol Appl Pharmacol* 84:412-417.

*Pelikan Z, Cerny E. 1968. [The toxic effect of tri-*n*-butyl-tin compounds on white mice.] *Arch Toxikol* 23:283-292. (German)

*Pelikan Z, Cerny E. 1969. Toxic effect of bis-(tri-*n*-butyltin) oxide (TBTO) on the skin of rats. *Berufs Dermatosen* 17:305-316.

*Pelikan Z, Cerny E. 1970. Toxic effects of some "mono-*n*-butyl-tin compounds" on white mice. *Arch Toxicol* 27:79-84.

*Pendergrass EP, Pryde AW. 1948. Benign pneumoconiosis due to tin oxide: A case report with experimental investigation of the radiographic density of the tin oxide dust. *J Ind Hyg Tox* 30:119-123.

Penninks AH, Seinen W. 1982. Comparative toxicity of alkyltin and estertin stabilizers. *Food Chem Toxicol* 20:909-916.

9. REFERENCES

- Penninks AH, Seinen W. 1983. The lymphocyte as target of toxicity: A biochemical approach to dialkyltin induced immunosuppression. In: Hadden JW, ed. *Advances in immunopharmacology*. Proceedings of the International Conference. Oxford, UK: Pergamon Press, 41-60.
- Penninks AH, Seinen W. 1984. Mechanisms of dialkyltin induced immunopathology. *Vet Q* 6:209-215.
- Penninks A, Kuper F, Spit BJ, et al. 1985. On the mechanism of dialkyltin-induced thymus involution. *Immunopharmacology* 10:1-10.
- Phelps HL, Page DS. 1997. Tributyltin biomonitoring in Portuguese estuaries with the Portuguese oyster (*Crassostrea angulata*). *Environ Technol* 18:1269-1276.
- Pieters R, Albers R, Bleumink R, et al. 1995. The thymus atrophy-inducing organotin compound DBTC inhibits the binding of thymocytes to thymic epithelial cells. *Int J Immunopharmacol* 17(4):329-337.
- Pieters RH, Bol M, Ariens T, et al. 1994a. Selective inhibition of immature CD4-CD8+ thymocyte proliferation, but not differentiation, by the thymus atrophy-inducing compound di-n-butyltin dichloride. *Immunology* 81:261-267.
- Pieters RHH, Bol M, Lam BW, et al. 1992. The organotin-induced thymus atrophy, characterized by depletion of CD4⁺CD8⁺ thymocytes, is preceded by a reduction of the immature CD4⁻CD8⁺TcRalpha β ^{-/low}CD2^{high} thymoblast subset. *Immunology* 76:203-208.
- *Pieters RHH, Bol M, Penninks AH. 1994b. Immunotoxic organotins as possible model compounds in studying apoptosis and thymocyte differentiation. *Toxicology* 91:189-202.
- *Pieters RH, Bol M, Seinen W, et al. 1994c. Cellular and molecular aspects of organotin-induced thymus atrophy. *Hum Exp Toxicol* 13(12):876-879.
- Piver WT. 1973. Organotin compounds: Industrial applications and biological investigation. *Environ Health Perspect* 4:61-79.
- Pluta R, Ostrowska B. 1987. Acute poisoning with triethyltin in the rat. Changes in cerebral blood flow, cerebral oxygen consumption, arterial and cerebral venous blood gases. *Exp Neurol* 98:67-77.
- Pompili E, Nori SL, Geloso MC, et al. 2004. Trimethyltin-induced differential expression of PAR subtypes in reactive astrocytes of the rat hippocampus. *Mol Brain Res* 122(1):93-98.
- Porvaznik M, Gray BH, Mattie D, et al. 1986. The ultrastructural localization of tri-n-butyltin in human erythrocyte membranes during shape transformation leading to hemolysis. *Lab Invest* 54(3):254-267.
- *Proctor NH, Hughes JP, Fischman ML. 1988. Chemical hazards of the workplace. 2nd ed. Philadelphia, PA: J.B. Lippincott Company, 475-477.
- *Purves DC, Garrod IJ, Dayan AD. 1991. A comparison of spongiosis induced in the brain by hexachlorophene, cuprizone, and triethyl tin in the Sprague-Dawley rat. *Hum Exp Toxicol* 10(6):439-444.
- Queauviller P. 1996. Improvement of quality control of speciation analysis using hyphenated techniques: A decade of progress within the European Community. *J Chromatogr A* 750:25-33.

9. REFERENCES

- *Rader JI, Hight SC, Capar SG. 1990. Copper depletion in long-Evans rats fed inorganic tin. *J Trace Elem Exp Med* 3:193-202.
- Raffray M, Cohen GM. 1991. Bis(tri-n-butyltin) oxide induces programmed cell death (apoptosis) in immature rat thymocytes. *Arch Toxicol* 65:135-139.
- *Raffray M, Cohen GM. 1993. Thymocyte apoptosis as a mechanism for tributyltin-induced atrophy in vivo. *Arch Toxicol* 67(4):231-236.
- Raffray M, Cohen GM. 1998. Re: Organotin-induced apoptosis as observed *in vitro* is not relevant for induction of thymus atrophy at antiproliferative doses. *Toxicol Appl Pharmacol* 153:136-138.
- *Raffray M, McCarthy D, Snowden RT, et al. 1993. Apoptosis as a mechanism of tributyltin cytotoxicity to thymocytes: relationship of apoptic markers to biochemical and cellular effects. *Toxicol Appl Pharmacol* 119:122-130.
- *Rains TC. 1982. Atomic absorption spectrometry. In: Minear RA, Keith LH, eds. Water analysis. Vol. II. Inorganic species. Part 2. New York, NY: Academic Press, 235-273.
- *Ramonaityte DT. 2001. Copper, zinc, tin and lead in canned evaporated milk, produced in Lithuania: the initial content and its change at storage. *Food Addit Contam* 18:31-37.
- *Regoli L, Chan HM, de Lafontaine Y, et al. 2001. Organotins in zebra mussels (*Dreissena polymorpha*) and sediments of the Quebec City Harbour area of the St. Lawrence River. *Aquat Toxicol* 53(2):115-126.
- Reish DJ, Geesey GG, Wilkes FG, et al. 1983. Marine and estuarine pollution. *J Water Pollut Control Fed* 55:767-787.
- *Reiter L, Kidd K, Heavner G, et al. 1980. Behavioral toxicity of acute and subacute exposure to triethyltin in the rat. *Neurotoxicology* 2:97-112.
- *Reiter LW, Heavner GB, Dean KF, et al. 1981. Developmental and behavioral effects of early postnatal exposure to triethyltin in rats. *Neurobehav Toxicol Teratol* 3:285-293.
- Reuhl KR, Cranmer JM. 1984. Developmental neuropathology of organotin compounds. *Neurotoxicology* 5:187-204.
- Reuhl KR, Gilbert SG, Mackenzie BA, et al. 1985. Acute trimethyltin intoxication in the monkey (*Macaca fascicularis*). *Toxicol Appl Pharmacol* 79:436-452.
- *Rey C, Reinecke HJ, Besser R. 1984. Methyltin intoxication in six men: Toxicologic and clinical aspects. *Vet Hum Toxicol* 26:121-122.
- *Richman EA, Bierkamper GG. 1984. Histopathology of spinal cord, peripheral nerve, and soleus muscle of rats treated with triethyltin bromide. *Exp Neurol* 86:122-133.
- Richter-Landsberg C, Besser A. 1994. Effects of organotins on rat brain astrocytes in culture. *J Neurochem* 63(6):2202-2209.
- *Rinehart RD, Yanagisawa Y. 1993. Paraoccupational exposures to lead and tin carried by electric-cable splicers. *Am Ind Hyg Assoc J* 54:593-599.

9. REFERENCES

- Robaire B, Luu T, Adeeko A, et al. 2002. Exposure in utero to tributyltin chloride reduced ventral prostate weight and altered gene expression in the progeny. *Biol Reprod* 66:221.
- *Robertson DG, Kim S-N, Gray RH, et al. 1987. The pathogenesis of trimethyltin chloride-induced nephrotoxicity. *Fundamen Appl Toxicol* 8:147-158.
- *Rodwell DE. 1987. An embryotoxicity study in rabbits with triphenyltin hydroxide. Somerville, NJ: American Hoecht Corporation.
- *Roe FJ, Boyland E, Millican K. 1965. Effects of oral administration of two tin compounds to rats over prolonged periods. *Food Cosmet Toxicol* 3:277-280.
- *Rohl C, Gulden M, Seibert H. 2001. Toxicity of organotin compounds in primary cultures of rat cortical astrocytes. *Cell Biol Toxicol* 17:23-32.
- *Rose MS. 1969. Evidence for histidine in the triethyltin-binding site of rat hemoglobin. *Biochem J* 111:129-137.
- *Rose MS, Aldridge WN. 1968. The interaction of triethyltin with components of animal tissues. *Biochem J* 106:821-828.
- Rosenberg DW, Drummond GS, Kappas A. 1982. The influence of organometals on heme metabolism: *In vivo* and *in vitro* studies with organotins. *Mol Pharmacol* 21:150-158.
- *Ross WD, Emmett EA, Steiner J, et al. 1981. Neurotoxic effects of occupational exposure to organotins. *Am J Psychiatry* 138:1092-1095.
- *RTECS database. 2003. National Institute for Occupational Safety and Health.
- *Rüdel H. 2003. Case study: bioavailability of tin and tin compounds. *Ecotoxicol Environ Saf* 56(1):180-189.
- Ruiz JM, Bachelet G, Caumette P. 1996. Three decades of tributyltin in the coastal environment with emphasis on Archachon Bay, France. *Environ Pollut* 93:195-203.
- *Ruppert PH, Dean KF, Reiter LW. 1983. Developmental and behavioral toxicity following acute postnatal exposure of rat pups to trimethyltin. *Neurobehav Toxicol Teratol* 5:421-429.
- *Ruppert PH, Dean KF, Reiter LW. 1984. Neurobehavioral toxicity of triethyltin in rats as a function of age at postnatal exposure. *Neurotoxicology* 5:9-21.
- Ruppert PH, Dean KF, Reiter LW. 1985. Development of locomotor activity of rat pups exposed to heavy metals. *Toxicol Appl Pharmacol* 78:69-77.
- *Saary MJ, House RA. 2002. Preventable exposure to trimethyl tin chloride: a case report. *Occup Med* 52(4):227-230.
- *Sachsse K, Frei T, Luetkamier H, et al. 1987. Triphenyltin hydroxide. Review of a dog chronic feeding study. In: TPTH-substance technical (HOEO29664 of 2097004) chronic oral toxicity 52-week feeding study in beagle dogs. Somerville, NJ: American Hoechst Corporation. EPA834017.

9. REFERENCES

- *Sadamatsu M, Tsunashima K, Schwarzer C, et al. 1998. Trimethyltin-induced expression of neuropeptide Y Y₂ receptors in rat dentate gyrus. *Neurotoxicol Teratol* 20:607-610.
- *Sadiki A, Williams DT. 1996. Speciation of organotin and organolead compounds in drinking water by gas chromatography-atomic emission spectrometry. *Chemosphere* 32:1983-1992.
- *Sadiki AI, Williams DT. 1999. A study on organotin levels in Canadian drinking water distributed through PVC pipes. *Chemosphere* 38:1541-1548.
- *Sadiki AI, Williams DT, Carrier R, et al. 1996. Pilot study on the contamination of drinking water by organotin compounds from PVC materials. *Chemosphere* 32:2389-2398.
- *Safe S, Connor K, Ramamoorthy K, et al. 1997. Human exposure to endocrine-active chemicals: Hazard assessment problems. *Regul Toxicol Pharmacol* 26:52-58.
- *Sagelsdorff P, Dollenmeier P, Ebner D, et al. 1990. Lack of covalent binding to DNA of di-*n*-octyltin dichloride (DOTC) in vivo and in vitro. *Toxicol Lett* 50:179-188.
- Saint-Louis R, Gobeil C, Pelletier E. 1997. Tributyltin and its degradation products in the St. Lawrence Estuary (Canada) *Environ Technol* 18:1209-1218.
- *Santillo D, Labunská I, Davidson H, et al. 2003. Consuming Chemicals. Hazardous chemicals in house dust as an indicator of chemical exposure in the home. Greenpeace Research Laboratories Technical Note 01/2003 (GRL-TN-01-2003). http://www.greenpeace.to/pdfs/housedust_uk_2003.pdf. July 29, 2003.
- *Sasaki YF, Yamada H, Sugiyama C, et al. 1993. Increasing effect of tri-*n*-butyltins and triphenyltins on the frequency of chemically induced chromosome aberrations in cultured Chinese hamster cells. *Mutat Res* 300:5-14.
- *Savolainen H, Valkonen S. 1986. Dose-dependent brain tin concentration in rats given stannous chloride in drinking water. *Toxicol Lett* 30:35-39.
- *Sax NI. 1984. Dangerous Properties of Industrial Materials. 6th ed. New York, NY: Van Nostrand Reinhold Company, 504, 541, 782, 920.
- *Sax NI, Lewis RJ Sr. 1987. Hawley's condensed chemical dictionary. 11th ed. New York, NY: Van Nostrand Reinhold Company, 1088, 1156-1157, 1174.
- Saxena A, Koacher JK, Tandon JP. 1985. Testicular changes in rats after administration of organotin complex. *J Toxicol Environ Health* 15:503-507.
- Scallet AC, Slikker W Jr, Ali SF, et al. 1992. Age and dietary factors in hippocampal sensitivity to trimethyltin. *Ann N Y Acad Sci* 648:340-342.
- *Schafer SG, Femfert U. 1984. Tin--a toxic heavy metal? A review of the literature. *Regul Toxicol Pharmacol* 4:57-69.
- *Schramel P, Wendler I, Angerer J. 1997. The determination of metals (antimony, bismuth, lead, cadmium, mercury, palladium, platinum, tellurium, thallium, tin and tungsten) in urine samples by inductively coupled plasma-mass spectrometry. *Int Arch Occup Environ Health* 69:219-223.

9. REFERENCES

*Schroeder HA, Balassa JJ. 1967. Arsenic, germanium, tin and vanadium in mice: Effects on growth, survival and tissue levels. *J Nutr* 92:245-252.

*Schroeder HA, Balassa JJ, Tipton IH. 1964. Abnormal trace metals in man: Tin. *J Chronic Dis* 17:483-502.

*Schroeder HA, Kanisawa M, Frost DV, et al. 1968. Germanium, tin and arsenic in rats: Effects on growth, survival, pathological lesions and life span. *J Nutr* 96:37-45.

Schuhmacher M, Meneses M, Granero S, et al. 1998. Trace metals in vegetation grown near to an old municipal solid waste incinerator from Catalonia, Spain. *Fresenius Environ Bull* 7:42-50.

Schwarz Y, Kivity S, Abraham JL. 1998. Evaluation of workers exposed to dust containing hard metals and aluminum oxide. *Am J Ind Med* 34(2):177-182.

*Schweinfurth HA, Gunzel P. 1987. The tributyltins: Mammalian toxicity and risk evaluation for humans. Proceedings of the Oceans '87 Conference, Halifax, Nova Scotia, September 28 - October 1, 1987.

*Seidel SL, Hodge VF, Goldberg ED. 1980. Tin as an environmental pollutant. *Thalassia Jugoslavica* 16:209-223.

Seinen W. 1981. Immunotoxicity of alkyltin compounds. In: Sharma RP, ed. *Immunologic considerations in toxicology*. Vol. I. Boca Raton, FL: CRC, 103-119.

Seinen W, Penninks A. 1979. Immune suppression as a consequence of a selective cytotoxic activity of certain organometallic compounds on thymus and thymus-dependent lymphocytes. *Ann N Y Acad Sci* 320:499-517.

*Seinen W, Willems MI. 1976. Toxicity of organotin compounds. I. Atrophy of thymus and thymus-dependent lymphoid tissue in rats fed di-n-octyltindichloride. *Toxicol Appl Pharmacol* 35:63-75.

Seinen W, Vos JG, Brands R, et al. 1979. Lymphocytotoxicity and immunosuppression by organotin compounds. Suppression of graft-versus-host reactivity, blast transformation, and E-rosette formation by di-n-butyltindichloride and di-n-octyltindichloride. *Immunopharmacology* 1:343-355.

*Seinen W, Vos JG, Van Krieken R, et al. 1977b. Toxicity of organotin compounds. III. Suppression of thymus-dependent immunity in rats by di-n-butyltindichloride and di-n-octyltindichloride. *Toxicol Appl Pharmacol* 42:213-224.

*Seinen W, Vos JG, Van Spanje I, et al. 1977a. Toxicity of organotin compounds. II. Comparative *in vivo* and *in vitro* studies with various organotin and organolead compounds in different animal species with special emphasis on lymphocyte cytotoxicity. *Toxicol Appl Pharmacol* 42:197-212.

Seligman PF, Maguire RJ, Lee RF, et al. 1996. Persistence and fate of tributyltin in aquatic ecosystems. In: Champ MA, Seligman PF, eds. *Organotin*. London, UK: Chapman and Hall, 429-457.

*Senesi GS, Baldassarre G, Senesi N, et al. 1999. Trace element inputs into soils by anthropogenic activities and implications for human health. *Chemosphere* 39(2):343-377.

9. REFERENCES

- *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.
- Shawky S, Emons H. 1998. Distribution pattern of organotin compounds at different trophic levels of aquatic ecosystems. *Chemosphere* 36:523-535.
- Shelby MD, Stasiewicz S. 1984. Chemicals showing no evidence of carcinogenicity in long-term, two-species rodent studies: The need for short-term test data. *Environ Mutagen* 6:871-878.
- *Sheldon AW. 1975. Effects of organotin anti-fouling coatings on man and his environment. *J Paint Technol* 47:54-58.
- *Sherlock JC. 1987. Lead in food and the diet. *Environ Geochem Health* 9:43-47.
- Shim WJ, Jeon JK, Oh JR, et al. 2002. Accumulation of tributyltin in the blood of fish: its application for monitoring in the marine environment. *Environ Toxicol Chem* 21(7):1451-1455.
- Shizhong T, Chau YK, Liu D. 1989. Biodegradation of bis(tri-n-butyltin)oxide. *Appl Organomet Chem* 3:249-255.
- Silva CR, Oliveira MB, Melo SF, et al. 2002. Biological effects of stannous chloride, a substance that can produce stimulation or depression of the central nervous system. *Brain Res Bull* 59(3):213-216.
- Silva FCP, Fonseca AS, Correa AS, et al. 1994. Near-UV light protection effect against lethality induced by stannous chloride in *Escherichia coli*. *Microbios* 79:241-244.
- *Sittig M. 1985. *Handbook of toxic and hazardous chemicals and carcinogens*. 2nd ed. Park Ridge, NJ: Noyes Publications, 862-865.
- Skarning CR-F, Varhaug LN, Fonnum F, et al. 2002. Effects of *in vivo* treatment of rats with trimethyltin chloride on respiratory properties of rat liver mitochondria. *Biochem Pharmacol* 64:657-667.
- Sluis-Cremer GK, Thomas RG, Goldstein B, et al. 1989. Stannosis: A report of 2 cases. *S Afr Med J* 75:124-126.
- *Smart GA, Sherlock JC, Norman JA. 1987. Dietary intakes of lead and other metals: A study of young children from an urban population in the UK. *Food Addit Contam* 5:85-93.
- Smialowicz RJ, Riddle MM, Rogers RR, et al. 1988. Immunologic effects of perinatal exposure of rats to dioctyltin dichloride. *J Toxicol Environ Health* 25:403-422.
- *Smialowicz RJ, Riddle MM, Rogers RR, et al. 1989. Immunotoxicity of tributyltin oxide in rats exposed as adults or pre-weanlings. *Toxicology* 57:97-111.
- *Smialowicz RJ, Riddle MM, Rogers RR, et al. 1990. Immune alterations in rats following subacute exposure to tributyltin oxide. *Toxicology* 64:169-178.
- *Smith ME. 1973. Studies on the mechanism of demyelination: Triethyl tin-induced demyelination. *J Neurochem* 21:357-372.

9. REFERENCES

- *Smith PJ. 1978. Toxicological data on organotin compounds. Middlesex, England: International Tin Research Institute, 1-10. ITRI Publication No. 538.
- *Smith PAS. 1996. Nomenclature. In: Kroschwitz JI, Howe-Grant M, eds. Kirk-Othmer encyclopedia of chemical technology. Vol. 17: Nickel and Nickel Alloys to Paint. New York, NY: John Wiley & Sons, 238-259.
- *Smith T, Veall N, Wootton R. 1982. Bladder wall dose from administered radiopharmaceuticals: The effects of variations in urine flow rate, voiding interval and initial bladder content. Radiat Prot Dosim 2(3):183-189.
- Snoeij NJ, Penninks AH, Seinen W. 1987. Biological activity of organotin compounds--an overview. Environ Res 44:335-353.
- Snoeij NJ, Penninks AH, Seinen W. 1988. Dibutyltin and tributyltin compounds induce thymus atrophy in rats due to a selective action on thymic lymphoblasts. Int J Immunopharmacol 10:891-899.
- Snoeij NJ, Penninks AH, Seinen W. 1989. Thymus atrophy and immunosuppression induced by organotin compounds. Arch Toxicol Suppl 13:171-174.
- *Snoeij NJ, van Iersel AA, Penninks AH, et al. 1985. Toxicity of triorganotin compounds: Comparative in vivo studies with a series of trialkyltin compounds and triphenyltin chloride in male rats. Toxicol Appl Pharmacol 81:274-286.
- Snoeij NJ, van Iersel AA, Penninks AH, et al. 1986a. Triorganotin-induced cytotoxicity to rat thymocytes. Food Chem Toxicol 24:599-600.
- Snoeij NJ, van Iersel AA, Penninks AH, et al. 1986b. Triorganotin-induced cytotoxicity to rat thymus, bone marrow and red blood cells as determined by several *in vitro* assays. Toxicology 39:71-83.
- *Solomon NW, Marchini JS, Duarte-Favarro RM, et al. 1983. Studies on the bioavailability of zinc in humans: Intestinal interaction of tin and zinc. Am J Clin Nutr 37:566-571.
- *Sparmann G, Merkord J, Jaschke A, et al. 1997. Pancreatic fibrosis in experimental pancreatitis induced by dibutyltin dichloride. Gastroenterology 112(5):1664-1672.
- *Squibb RE, Carmichael NG, Tilson HA. 1980. Behavioral and neuromorphological effects of triethyl tin bromide in adult rats. Toxicol Appl Pharmacol 55:188-197.
- SRI. 1986. Directory of chemical producers: United States of America. Menlo Park, CA: SRI International, 1057-1059.
- SRI. 1987. Directory of chemical producers: United States of America. Menlo Park, CA: SRI International, 1047-1048.
- SRI. 1988. Directory of chemical producers: United States of America. Menlo Park, CA: SRI International, 1025-1026.
- SRI. 1989. Directory of chemical producers: United States of America. Menlo Park, CA: SRI International, 1034.

9. REFERENCES

- SRI. 2002. SRI Consulting. Menlo Park, CA, 542-543, 564-566, 926, 931, 941.
- *SRI. 2003. Directory of chemical producers: United States of America. Menlo Park, CA: SRI International, 537, 557, 558, 559, 560, 910, 914, 917, 921, 922, 931.
- *SRI. 2004. Directory of chemical producers. Menlo Park, CA: SRI International, 533-535, 555, 557, 558, 907, 911, 912, 914, 919, 929.
- *Stahnke T, Richter-Landsberg C. 2004. Triethyltin-induced stress responses and apoptotic cell death in cultured oligodendrocytes. *Glia* 46(3):334-344.
- *Stanley JS. 1986. Broad scan analysis of the FY82 national human adipose tissue survey specimens. Vol. I. Executive summary. Washington, DC: U.S. Environmental Protection Agency, Office of Toxic Substances. EPA566586035.
- *Stanton ME. 1991. Neonatal exposure to triethyltin disrupts olfactory discrimination learning in preweanling rats. *Neurotoxicol Teratol* 13(5):515-524.
- *Stanton ME, Jensen KF, Pickens CV. 1991. Neonatal exposure to trimethyltin disrupts spatial delayed alternation learning in preweanling rats. *Neurotoxicol Teratol* 13(5):525-530.
- *Stewart JH, Lassiter JV. 2001. Tin. In: Bingham E, Cohrssen B, Powell CH, eds. *Patty's Toxicology*. 2:576-597.
- *Stone O, Willis C. 1968. The effect of stannous fluoride and stannous chloride in inflammation. *Toxicol Appl Pharmacol* 13:332-338.
- *Stoner HB. 1966. Toxicity of triphenyltin. *Br J Ind Med* 23:222-229.
- Stoner HB, Barnes JM, Duff JI. 1955. Studies on the toxicity of alkyl tin compounds. *Br J Pharmacol* 10:16-25.
- *Strand JA. 1983. The biological fate and effects of organotin compounds in the marine environment. Seattle, WA: Naval Reserve Center. ONR/NRL TAC 522. ADA133890.
- *Strand J, Asmund G. 2003. Tributyltin accumulation and effects in marine molluscs from West Greenland. *Environ Pollut* 123(1):31-37.
- *Strand J, Jacobsen JA, Pedersen B, et al. 2003. Butyltin compounds in sediment and molluscs from the shipping strait between Denmark and Sweden. *Environ Pollut* 124(1):7-15.
- *Stridh H, Fava E, Single B, et al. 1999a. Tributyltin-induced apoptosis requires glycolytic adenosine triphosphate production. *Chem Res Toxicol* 12:874-882.
- *Stridh H, Orrenius S, Hampton MB. 1999b. Caspase involvement in the induction of apoptosis by the environmental toxicants tributyltin and triphenyltin. *Toxicol Appl Pharmacol* 156(2):141-146.
- *Stringer CP, Hicks R, Botham PA. 1991. Contact sensitivity (allergic contact dermatitis) to bis(tri-n-butyltin) oxide in mice. *Contact Dermatitis* 24:210-215.

9. REFERENCES

- *Subramanian KS, Connor JW, Meranger JC. 1991. Leaching of antimony, cadmium, copper, lead, silver, tin and zinc from copper piping with non-lead-based soldered joints. *J Environ Sci Health Part A* 26(6):911-929.
- Subramoniam A, Husain R, Seth PK. 1991. Reduction of phosphoinositides and diacylglycerol levels in repeatedly dibutyltin-dilaurate-treated rat brain. *Toxicol Lett* 57:245-250.
- Subramoniam A, Khandelwal S, Dwivedi PD, et al. 1994. Dibutyltin dilaurate induced thymic atrophy and modulation of phosphoinositide pathway of cell signalling in thymocytes of rats. *Immunopharmacol Immunotoxicol* 16(4):645-677.
- *Sun H, Huang G, Dai S. 1996. Adsorption behaviour and QSPR studies of organotin compounds on estuarine sediment. *Chemosphere* 33:831-838.
- *Sussell A, Singal M, Wainwright S. 1996. Occupational exposures to heavy metals at a Bolivian smelter. In: Tharr D, ed. *Appl Occup Environ Hyg* 11(7):591-595.
- Suzuki T, Kondo K, Uchiyama M, et al. 1999a. Chemical species of organotin compounds in sediment at a marina. *J Agric Food Chem* 47:3886-3894.
- *Suzuki T, Kondo K, Uchiyama M, et al. 1999b. Some sulfur-containing metabolites of tri-n-butyltin chloride in male rats. *J Agric Food Chem* 47(11):4791-4798.
- Suzuki T, Yamada H, Yamamoto I, et al. 1996. Chemical species of organotin compounds in seawater and their seasonal variations. *J Agric Food Chem* 44:3989-3995.
- Suzuki T, Yamamoto I, Yamada H, et al. 1998. Accumulation, metabolism, and depuration of organotin compounds in the marine mussels *Mytilus grayanus* and *Mytilus edulis* under natural conditions. *J Agric Food Chem* 46:304-313.
- *Sweet CW, Vermette SJ, Landsberger S. 1993. Sources of toxic trace elements in urban air in Illinois. *Environ Sci Technol* 27(12):2502-2510.
- *Takagi S, Mano H, Tsunoda M, et al. 1992. Acute toxicity of tri-n-butyltin chloride (TBTC) in the Syrian golden hamster. *J Exp Med* 166(3):309-319.
- *Takahashi S, Mukai H, Tanabe S, et al. 1999. Butyltin residues in livers of humans and wild terrestrial mammals and in plastic products. *Environ Pollut* 106:213-218.
- *Takeuchi M, Mizuishi K, Hobo T. 2000. Determination of organotin compounds in environmental samples. *Anal Sci* 16:349-359. http://wwwsoc.nii.ac.jp/jsac/analsci/pdfs/a16_0349.pdf. June 27, 2003.
- *Takeuchi I, Takahashi S, Tanabe S, et al. 2004. Butyltin concentrations along the Japanese coast from 1997 to 1999 monitored by *Caprella* spp. (Crustacea: Amphipoda). *Mar Environ Res* 57(5):397-414.
- Tas JW, Keizer A, Opperhuizen A. 1996. Bioaccumulation and lethal body burden of four triorganotin compounds. *Bull Environ Contam Toxicol* 57:146-154.
- Taylor HE, Antweiler RC, Roth DA, et al. 2001. The occurrence and distribution of selected trace elements in the upper Rio Grande and tributaries in Colorado and northern New Mexico. *Arch Environ Contam Toxicol* 41:410-426.

9. REFERENCES

Ten Hallers-Tjabbes CC. 1997. Tributyltin and policies for antifouling. Environ Technol 18:1265-1268.

*Tennekes H, Horst K, Luethemeier H, et al. 1989b. TPTH technical (code: HOE029664 of ZD97004) chronic toxicity/oncogenicity 104-week feeding study in rats. Somerville, NJ: Hoechst Celanese Corporation.

*Tennekes H, Horst K, Luethemeier H, et al. 1989a. TPTH technical (code: HOE029664 of ZD97004) oncogenicity study in mice. Somerville, NJ: Hoechst Celanese Corporation.

*Theuer RC, Mahoney AW, Sarett HP. 1971. Placental transfer of fluoride and tin in rats given various fluoride and tin salts. J Nutr 101:525-532.

*Thomas LD, Shah H, Green S, et al. 2004. Tributyltin exposure causes decreased granzyme B and perforin levels in human natural killer cells. Toxicology 200(2-3):221-233.

*Thompson KC, Thomerson DR. 1974. Atomic absorption studies on the determination of antimony, arsenic, bismuth, germanium, lead, selenium, tellurium and tin by utilizing the generation of covalent hydrides. Analyst 99:595-601.

*Thompson SE, Burton CA, Quinn DJ, et al. 1972. Concentration factors of chemical elements in edible aquatic organisms. Livermore, CA: Lawrence Livermore Laboratory, Bio-Medical Division, University of California.

*Thompson TA, Lewis JM, Dejneka NS, et al. 1996. Induction of apoptosis by organotin compounds in vitro: neuronal protection with antisense oligonucleotides directed against stannin. J Pharmacol Exp Ther 276(3):1201-1215.

*Tin Technology. 2004. ITRI tin producers initiate important project on tin resources, sustainability, and the environment.

<http://www.tintechnology.biz/tintechnology/?resourcehid=1&hiddenlog=0&txtsearch=ITRI+tin+producers>. December 09, 2004.

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

*Tipton IH, Cook MJ, Steiner RL, et al. 1963. Trace elements in human tissue: Part I. Methods. Health Phys 9:89-101.

*Tofigh S, Frenkel K. 1989. Effects of metals on nucleoside hydroperoxide, a product of ionizing radiation in DNA. Free Radic Biol Med 7:131-143.

*Toggas SM, Krady JK, Billingsley ML. 1992. Molecular neurotoxicology of trimethyltin: identification of stannin, a novel protein expressed in trimethyltin-sensitive cells. Mol Pharmacol 42:44-56.

Toggas SM, Krady JK, Polli JW, et al. 1990. Molecular cloning and analysis messenger RNA expressed in trimethyltin-sensitive neurons. Abstr Soc Neurosci 16(2):1119.

Toggas SM, Krady JK, Thompson TA, et al. 1993. Molecular mechanisms of selective neurotoxicants: Studies on organotin compounds. Ann N Y Acad Sci 157-177.

9. REFERENCES

- *Tomlin CDS, ed. 1997. Fentin: Fungicide, algicide, molluscicide. The pesticide manual. British Crop Protection Council, 533-537.
- TRI04. 2004. TRI explorer: Providing access to EPA's toxics release inventory data. Washington, DC: Office of Information Analysis and Access. Office of Environmental Information. U.S. Environmental Protection Agency. Toxics Release Inventory. <http://www.epa.gov/triexplorer/>. January 3, 2004.
- Tripathy NK, Wurgler FE, Frei H. 1990. Genetic toxicity of six carcinogens and six non-carcinogens in the *Drosophila* wing spot test. *Mutat Res* 242(3):169-180.
- *Tryphonas H, Cooke G, Caldwell D, et al. 2004. Oral (gavage), in utero and post-natal exposure of Sprague-Dawley rats to low doses of tributyltin chloride: Part II: effects on the immune system. *Food Chem Toxicol* 42(2):221-235.
- *Tsuda T, Inoue T, Kojima M, et al. 1995. Daily intakes of tributyltin and triphenyltin compounds from meals. *J AOAC Int* 78:941-943.
- *Tsuda T, Nakanishi H, Aoki S, et al. 1986. Bioconcentration of butyltin compounds by round Crucian carp. *Toxicol Env Chem* 12:137-143.
- Tsukazaki M, Satsu H, Mori A, et al. 2004. Effects on tributyltin on barrier functions in human intestinal Caco-2 cells. *Biochem Biophys Res Commun* 315(4):991-997.
- *Tsunashima K, Sadamatsu M, Takahashi Y, et al. 1998. Trimethyltin intoxication induces marked changes in neuropeptide expression in the rat hippocampus. *Synapse* 29:333-342.
- Tsutsumi S, Akaike M, Arimitsu H, et al. 2002. Circulating corticosterone alters the rate of neuropathological and behavioral changes induced by trimethyltin in rats. *Exp Neurol* 173:86-94.
- Tyson CA, Mitoma C, Kalivoda J. 1980. Evaluation of hepatocytes isolated by a nonperfusion technique in a prescreen for cytotoxicity. *J Toxicol Environ Health* 6:197-205.
- Ueha T, Oyama Y, Tomiyoshi F. 1996. Cytotoxic action of tri-n-butyltin on dissociated rat cerebellar neurones: a flow-cytometric study. *Pharmacol Toxicol* 78(6):404-408.
- *Ueno D, Inoue S, Takahashi S, et al. 2004. Global pollution monitoring of butyltin compounds using skipjack tuna as a bioindicator. *Environ Pollut* 127(1):1-12.
- *Ueno S, Kashimoto T, Susa Y, et al. 2003a. Effects of butyltin compounds on mitochondrial respiration and its relation to hepatotoxicity in mice and guinea pigs. *Toxicol Sci* 75(1):201-207.
- *Ueno S, Kashimoto T, Susa N, et al. 2003b. Comparison of hepatotoxicity and metabolism of butyltin compounds in the liver of mice, rats and guinea pigs. *Arch Toxicol* 77(3):173-181.
- *Ueno S, Susa N, Furukawa Y, et al. 1994. Comparison of hepatotoxicity caused by mono-, di- and tributyltin compounds in mice. *Arch Toxicol* 69:30-34.
- *Ueno S, Susa N, Furukawa Y, et al. 1995. Role of cytochrome P450 in hepatotoxicity induced by di- and tributyltin compounds in mice. *Arch Toxicol* 69(9):655-658.

9. REFERENCES

- *Ueno S, Suzuki T, Susa N, et al. 1997. Effect of SFK-525A on liver metabolism and hepatotoxicity of tri- and dibutyltin compounds in mice. *Arch Toxicol* 71(8):513-518.
- *Umebayashi C, Oyama Y, Chikahisa-Muramatsu L, et al. 2004. Tri-*n*-butyltin-induced cytotoxicity on rat thymocytes in presence and absence of serum. *Toxicol in Vitro* 18(1):55-61.
- U.S. Bureau of Mines. 1980. Mineral commodity summaries. Washington, DC: U.S. Bureau of Mines.
- U.S. Bureau of Mines. 1983. Mineral commodity summaries. Washington, DC: U.S. Bureau of Mines.
- U.S. Bureau of Mines. 1988. Mineral commodity summaries. Washington, DC: U.S. Bureau of Mines.
- *U.S. Bureau of Mines. 1989. Mineral commodity summaries. Tin. Washington, DC: U.S. Bureau of Mines, 170-171.
- USITC. 1988. Synthetic organic chemicals: United States production and sales, 1987. Washington, DC: U.S. International Trade Commission. USITC Publication 2118.
- *USNRC. 2003. Standards for protection against radiation. Annual limits on intake (ALIs) and derived air concentrations (DACs) of radionuclides for occupational exposure; effluent concentrations, concentrations for release to sewerage. Washington, DC: U.S. Nuclear Regulatory Commission. 10 CFR 20, Appendix B. <http://www.nrc.gov/reading-rm/doc-collections/cfr>. June 6, 2003.
- Valdes JJ, Mactutus CF, Santos-Anderson RM, et al. 1983. Selective neurochemical and histological lesions in rat hippocampus following chronic trimethyltin exposure. *Neurobehav Toxicol Teratol* 5:357-361.
- *Vandebriel RJ, Meredith C, Scott MP, et al. 1998. Effects of in vivo exposure to bis(*tri-n*-butyltin)oxide, hexachlorobenzene, and benzo(a)pyrene of cytokine (receptor) mRNA levels in cultures rat splenocytes and on IL-2 receptor protein levels. *Toxicol Appl Pharmacol* 148:126-136.
- Vandebriel RJ, Spiekstra SW, Hudspith BN, et al. 1999. In vitro exposure effects of cyclosporin A and bis(*tri-n*-butyltin)oxide on lymphocyte proliferation, cytokine (receptor) mRNA expression, and cell surface marker expression in rat thymocytes and splenocytes. *Toxicology* 1355(1):49-66.
- *Van Loveren H, Krajnc EI, Rombout PJ, et al. 1990. Effects of ozone, hexachlorobenzene, and bis(*tri-n*-butyltin)oxide on natural killer activity in the rat lung. *Toxicol Appl Pharmacol* 102:21-33.
- Van Loveren H, Schuurman H-J, Kampinga J, et al. 1991. Reversibility of thymic atrophy induced by 2, 3, 8-tetrachlorodibenzo-p-dioxin (TCDD) and bis(*tri-n*-butyltin)oxide (TBTO). *Int J Immunopharmacol* 13(4):369-377.
- *van Netten C, Cann SAH, Morley DR, et al. 2000. Elemental and radioactive analysis of commercially available seaweed. *Sci Total Environ* 255:169-175.
- Veinott G, Perroncashman S, Anderson MR. 2001. Baseline metal concentrations in coastal Labrador sediments. *Mar Pollut Bull* 42:187-192.
- *Verdier F, Virat M, Schweinfurth H, et al. 1991. Immunotoxicity of bis(*tri-n*-butyltin) oxide in the rat. *J Toxicol Environ Health* 32:307-317.

9. REFERENCES

- *Veronesi B, Jones K, Gupta S, et al. 1991a. Myelin basic protein-messenger RNA (MBP-mRNA) expression during triethyltin-induced myelin edema. *Neurotoxicology* 12:265-276.
- Veronesi B, Pringle J, Mezei C. 1991b. Myelin basic protein-mRNA used to monitor trimethyltin neurotoxicity in rats. *Toxicol Appl Pharmacol* 108(3):428-435.
- Verschoyle RD, Little RA. 1981. The acute toxicity of some organolead and organotin compounds in the rat, with particular reference to a gastric lesion. *J Appl Toxicol* 1:247-255.
- Verschueren K. 1983. Handbook of environmental data on organic chemicals. 2nd ed. New York, NY: Van Nostrand Reinhold Company, 1120.
- *Veysseyre A, Moutard K, Ferrari C, et al. 2001. Heavy metals in fresh snow collected at different altitudes in the Chamonix and Maurienne Valleys, French Alps: Initial results. *Atmos Environ* 35:415-425.
- *Vieira I, Sonnier M, Cresteil T. 1996. Developmental expression of CYP2E1 in the human liver: Hypermethylation control of gene expression during the neonatal period. *Eur J Biochem* 238:476-483.
- View Database. 1989. Agency for Toxic Substances and Disease Registry (ATSDR), Office of External Affairs, Exposure and Disease Registry Branch, Atlanta, GA. September 25, 1989.
- *Viviani B, Corsini E, Galli CL, et al. 1998. Glia increase degeneration of hippocampal neurons through release of tumor necrosis factor-alpha. *Toxicol Appl Pharmacol* 150:271-276.
- Viviani B, Rossi AD, Chow SC, et al. 1995. Organotin compounds induce calcium overload and apoptosis in PC12 cells. *Neurotoxicology* 16:19-26.
- Voronkov MG, Zagata L. 1971. Comparative rate of hydrolysis for trimethylchloroderivatives of Group IVb elements (Mesoids) *Zh Obshch Khim* 41:1776-1779.
- Vos JG, De Klerk A, Krajnc EI, et al. 1984a. Toxicity of bis(*tri-n*-butyltin)oxide in the rat. II. Suppression of thymus-dependent immune responses and of parameters of nonspecific resistance after short-term exposure. *Toxicol Appl Pharmacol* 75:387-408.
- *Vos JG, De Klerk A, Krajnc EI, et al. 1990. Immunotoxicity of bis(*tri-n*-butyltin) oxide in the rat: effects on thymus-dependent immunity and on nonspecific resistance following long-term exposure in young vs. aged rats. *Toxicol Appl Pharmacol* 105(1):144-155.
- Vos JG, Krajnc EI, Wester PW. 1985. Immunotoxicity of bis(*tri-n*-butyltin) oxide. In: Dean JH, Luster MJ, Munson AE, et al., eds. *Immunotoxicology and Immunopharmacology*. New York, NY: Raven Press, 327-339.
- *Vos JG, Van Logten MJ, Kreeftenberg JG, et al. 1984b. Effect of triphenyltin hydroxide on the immune system of the rat. *Toxicology* 29:325-336.
- Voulvoulis N, Scrimshaw MD, Lester JN. 2002. Comparative environmental assessment of biocides used in antifouling paints. *Chemosphere* 47:789-795.
- Wada O, Manabe S, Iwai H, et al. 1982. [Recent progress in the study of analytical methods, toxicity, metabolism and health effects of organotin compounds.] *Sangyo Igaku* 24:24-54. (Japanese)

9. REFERENCES

- *Wade TL, Sweet ST, Quinn JG, et al. 2004. Tributyltin in environmental samples from the Former Derecktor Shipyard, Coddington Cove, Newport RI. Environ Pollut 129(2):315-320.
- *Waldock MJ, Thain JE. 1983. Shell thickening in *Crassostrea gigas*: Organotin antifouling or sediment induced? Marine Pollut Bull 14:411-415.
- Walsh TJ, DeHaven DL. 1988. Neurotoxicity of the alkyltins. In: Bondy SC, Prasad KN, eds. Metal neurotoxicity. Boca Raton, FL: CRC Press, 87-107.
- Watanabe H, Adachi R, Hirayama A, et al. 2003. Triphenyltin enhances the neurophilic differentiation of promyelocytic HL-60 cells. Biochem Biophys Res Commun 306(1):26-31.
- *Watanabe N, Sakai S, Takatsuki. 1992. Examination for degradation paths of butyltin compounds in natural waters. Wat Sci Tech 25:117-124.
- Watson M. 2003. Vancouver workshop: overview and synthesis. Mar Environ Res 57(1-2):145-153.
- *Wax PM, Dockstader L. 1995. Tributyltin use in interior paints: A continuing health hazard. Clin Toxicol 33(3):239-241.
- *Weast RC, Astle MJ, Beyer WH, eds. 1985. CRC handbook of chemistry and physics. Boca Raton, FL. CRC Press, Inc., B39, B153-154.
- *Weast RC, ed. 1980. CRC handbook of chemistry and physics. 61st ed. Boca Raton, FL. CRC Press, Inc., C669-675.
- Weber H, Merkord J, Jonas L, et al. 1995. Oxygen radical generation and acute pancreatitis: Effects of dibutyltin dichloride/ethanol and ethanol on rat pancreas. Pancreas 11(4):382-388.
- *Wedepohl KH, Correns CW, Shaw DM, et al., eds. 1978. Behavior during weathering and rock alteration. In: Handbook of geochemistry. Vol. II Part 4. Elements Kr(36) to Ba(56). New York, NY: Springer-Verlag, 50-G-1, 50-H-1.
- Weisenburger WP, Chatman LA, Engwall MJ. 1995. Relative sensitivities of neurobehavioral, neuropathological and functional sensory measures: a study of trimethyltin neurotoxicity. Neurotoxicol Teratol 17:372.
- *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.
- *Wester P, Krajnc E, van der Heijden. 1987. Chronic toxicity and carcinogenicity study with bis(tri-n-butyltin)oxide (TBTO) in rats. In: Proceedings of the ORTEPA workshop "Toxicology and analytics of the tributyltins - the present status." Berlin, May 15-16, 1986.
- *Wester PW, Krajnc EI, Van Leeuwen FXR, et al. 1990. Chronic toxicity and carcinogenicity of bis(tri-n-butyltin) oxide (TBTO) in the rat. Food Chem Toxicol 28(3):179-196.
- *Whalen MM, Loganathan BG. 2001. Butyltin exposure causes a rapid decrease in cyclic AMP levels in human lymphocytes. Toxicol Appl Pharmacol 171:141-148.

9. REFERENCES

- *Whalen MM, Ghazi S, Loganathan BG, et al. 2002b. Expression of CD16, CD18 and CD56 in tributyltin-exposed human natural killer cells. *Chem Biol Interact* 139(2):159-176.
- *Whalen MM, Green SA, Loganathan BG. 2002a. Brief butyltin exposure induces irreversible inhibition of the cytotoxic function on human natural killer cells, *in vitro*. *Environ Res* 88:19-29.
- *Whalen MM, Hariharan S, Loganathan BG. 2000. Phenyltin inhibition of the cytotoxic function of human natural killer cells. *Environ Res* 84(Sect. A):162-169.
- *Whalen MM, Loganathan BG, Kannan K. 1999. Immunotoxicity of environmentally relevant concentrations of butyltins on human natural killer cells *in vitro*. *Environ Res* 81(2):108-116.
- *Whalen MM, Wilson S, Gleghorn C, et al. 2003. Brief exposure to triphenyltin produces irreversible inhibition of the cytotoxic function of human natural killer cells. *Environ Res* 92(3):213-220.
- *WHO. 1980. Tin and organotin compounds: A preliminary review. Environmental Health criteria 15. World Health Organization, Geneva, Switzerland.
<http://www.inchem.org/documents/ehc/ehc.ehc015.htm>. June 6, 2003.
- *WHO. 1984. Guidelines for drinking-water quality. Vol. 1. Recommendations. Geneva, Switzerland: World Health Organization, 52.
- *WHO. 1990. International programme on chemical safety. Environmental health criteria 116: Tributyltin compounds. Geneva, Switzerland: World Health Organization.
<http://www.inchem.org/documents/ehc/ehc/ehc116.htm>. July 8, 2003.
- *WHO. 1993. Guidelines for drinking water quality. Tin and inorganic tin compounds. Geneva, Switzerland: World Health Organization. <http://www.who.int/en/>. June 6, 2003.
- *WHO 1999. Concise International Chemical Assessment Document 13: Triphenyltin compounds. Geneva, Switzerland: World Health Organization.
<http://www.inchem.org/documents/cicads/cicads/cicad13.htm>. July 30, 2003.
- *WHO. 2003. WHO Food Additives Series 46:TIN (addendum). Geneva, Switzerland: World Health Organization. <http://www.inchem.org/documents/jecfa/jecmono/v46je12.htm>. June 30, 2003.
- *WHO/IAEA. 1989. Minor and trace elements in breast milk: Report of a joint WHO/IAEA collaborative study. World Health Organization, 1-15, 118-119.
- *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.
- Wildhaber ML, Schmitt CJ. 1996. Estimating aquatic toxicity as determined through laboratory tests of Great Lakes sediments containing complex mixtures of environmental contaminants. *Environ Monit Assess* 41:255-289.
- *Windholz M, ed. 1983. The Merck index: An encyclopedia of chemicals, drugs, and biologicals. 10th ed. Rahway, NJ: Merck and Company, Inc., 1256-1257, 1353-1354.

9. REFERENCES

- Winek CL, Marks MJ Jr, Shanor SP, et al. 1978. Acute and subacute toxicology and safety evaluation of triphenyl tin hydroxide (Vancide KS). *Clin Toxicol* 13:281-296.
- Winship KA. 1988. Toxicity of tin and its compounds. *Adverse Drug React Acute Poisoning Rev* 1:19-38.
- Witz S, Wood JA, Wadley MW. 1986. Toxic metal and hydrocarbon concentrations in automobile interiors during freeway transit. *Proc Am Chem Soc Div Environ Chem*, 192nd National Meeting 26:302-305.
- Woodruff ML, Baisden RH. 1990. Exposure to trimethyltin significantly enhances acetylcholinesterase staining in the rat dentate gyrus. *Neurotoxicol Teratol* 12(1):33-40.
- *Wu R-M, Chang Y-C, Chiu H-C. 1990. Acute triphenyltin intoxication: A case report. *J Neurol Neurosurg Psychiatry* 53(4):356-357.
- Wu W, Roberts RS, Chung Y-C, et al. 1989. The extraction of organotin compounds from polyvinyl chloride pipe. *Arch Environ Contam Toxicol* 18:839-843.
- *Yallapragada PR, Vig PJS, Kodavanti PRS, et al. 1991. In vivo effects of triorganotins on calmodulin activity in rat brain. *J Toxicol Environ Health* 34:229-237.
- Yamada J. 1991. Effects of trialkyltin chlorides on isolated rat hepatocytes. *Agric Biol Chem* 55(9):2313-2319.
- *Yamada H, Sasaki YF. 1993. Organotins are co-clastogens in a whole mammalian system. *Mutat Res* 301:195-200.
- *Yamada H, Takayanagi K. 1992. Bioconcentration and elimination of bis(tributyltin) oxide (TBTO) and triphenyltin chloride (TPTC) in several marine fish species. *Water Res* 26:1589-1595.
- *Yamaguchi M, Kubo Y, Yamamoto T. 1979. Inhibitory effect of tin on intestinal calcium absorption in rats. *Toxicol Appl Pharmacol* 47:441-444.
- *Yamaguchi M, Saito R, Okada S. 1980. Dose-effect of inorganic tin on biochemical indices in rats. *Toxicology* 16:267-273.
- Yamaguchi M, Sugii K, Okada S. 1981. Inorganic tin in the diet affects the femur in rats. *Toxicol Lett* 9:207-209.
- *Yang F, Maguire RJ. 2000. Occurrence and seasonal variation of tributyltin in marinas on Lake Ontario, Canada. *Water Qual Res J Can* 35:681-691.
- Yang G, Zhang C, Yin J. 2003. Simultaneous determination of four heavy metal ions in tobacco and tobacco additive by online enrichment followed by RP-HPLC and microwave digestion. *J Chromatogr Sci* 41(4):195-199.
- *Yanofsky NN, Nierenberg D, Turco JH. 1991. Acute short-term memory loss from trimethyltin exposure. *J Emerg Med* 9:137-139.

9. REFERENCES

- *Yonemoto J, Shiraishi H, Soma Y. 1993. In vitro assessment of teratogenic potential of organotin compounds using rat embryo limb bud cell cultures. *Toxicol Lett* 66:183-191.
- Yoshizuka M, Hara K, Haramaki N, et al. 1992. Studies on the hepatotoxicity induced by bis (tributyltin) oxide. *Arch Toxicol* 66:182-187.
- Yoshizuka M, Haramaki N, Yokoyama M, et al. 1991. Corneal edema induced by bis (tributyltin) oxide. *Arch Toxicol* 65:651-655.
- *Ysart G, Miller P, Crews H, et al. 1999. Dietary exposure estimates of 30 elements from the UK total diet study. *Food Addit Contam* 16(9):391-403.
- *Yu TH, Arakawa Y. 1983. High-performance liquid chromatographic determination of dialkyltin homologues using fluorescence detection. *J Chromatogr* 258:189-197.
- *Yu W, Lee BJ, Nam SY, et al. 2003b. Spermatogenic disorders in adult rats exposed to tributyltin chloride during puberty. *J Vet Med Sci* 65(12):1331-1335.
- *Yu W, Nam S, Kim1 Y-c, et al. 2003a. Effects of tributyltin chloride on the reproductive system in pubertal male rats. *J Vet Sci* 4(1):29-34.
- Zawia NH, Harry GJ. 1993. Trimethyltin-induced c-fos expression: Adolescent vs neonatal rat hippocampus. *Toxicol Appl Pharmacol* 121:99-102.
- Zedler RJ. 1961. Organotins as industrial biochemicals. Tin and its uses. Greenford, England: International Tin Research and Development Council. Tin Research Institute, 53:7-11.
- Zhang Z, Lutz HD. 1995. Synthesis and crystal structure of orthorhombic NaSn₂Cl₅: A new type of AB₂X₅ compound. *J Solid State Chem* 115:158-164.
- *Ziegler EE, Edwards BB, Jensen RL, et al. 1978. Absorption and retention of lead by infants. *Pediatr Res* 12:29-34.
- *Zimmerli B, Zimmermann H. 1980. [Gas-chromatographic determination of traces of butyltin compounds (tetra-, tri-, di-) in the air.] *Fresenius Z Anal Chem* 304:23-27. (German)