

8. REFERENCES

- *Aarstad K, Dale O, Aakervik O, et al. 1993. A rapid gas chromatographic method for determination of ethylene glycol in serum and urine. *J Anal Toxicol* 17(4):218-221.
- Abbondandolo A, Bonatti S, Corsi C, et al. 1980. The use of organic solvent in mutagenicity testing. *Mutat Res* 79:141-150.
- *Abe S, Sasaki M. 1982. SCE as an index of mutagenesis and/or carcinogenesis. Chapter 24 In: Sister chromatid exchange. *Prog Top Cytogenet* 2:461-514.
- *Aberer VW, Fuchs T, Peters K-P, et al. 1993. Propylene glycol: Cutaneous side effects and test methods. Literature and results of a multicenter study of the German contact allergy group (DKG). *Dermatosen* 41:25-27. [German]
- Aboul-Enein HY, Islam MR. 1989. High performance liquid chromatography determination of ethylene glycol in stamp pad ink. *Toxicol Environ Chem* 24(3):181-184.
- ACGIH. 1994. Threshold limit values and biological exposure indices for 1994-1995. American Conference of Governmental Industrial Hygienists. Cincinnati, OH.
- Adams M, Collins M. 1988. Sensitive portable gas chromatograph with data retrieval and communications capability for remote surveillance of toxic gases and vapours in plant. *Analytical Proceedings* 25(6): 190-191.
- Adams WH, Toal RL, Breider MA. 1991. Ultrasonographic findings in dogs and cats with oxalate nephrosis attributed to ethylene glycol intoxication: 15 cases (1984-1988). *J Am Vet Med Assoc* 199(4):492-496.
- Adams WH, Toal RL, Walker MA, et al. 1989. Early renal ultrasonographic findings in dogs with experimentally induced ethylene glycol nephrosis. *Am J Vet Res* 50(8):1370-1376.
- Agren-Jonsson S, Magnusson B. 1976. Sensitization to propantheline bromide, trichlorocarbonyl and propylene glycol in an antiperspirant. *Contact Dermatitis* 2(2):79-80.
- Ahluwalia P, Amma MKP, Sareen K. 1980. Propane 1,2-diol induced in vivo and in vitro changes in rat erythrocytes. *Ind J Exp Biol* 18:382-284.
- Ahmed MM. 1971. Ocular effects of antifreeze poisoning. *Br J Ophthalmol* 55(12):854-855. AIHA. 1985. Propylene glycol. American Industrial Hygiene Association. Akron, OH, 5.

*Cited in text

8. REFERENCES

- Ambrose D, Hall DJ. 1981. Thermodynamic properties of organic oxygen compounds: I. The vapor pressures of 1,2-ethanediol (ethylene glycol) and bis(2-hydroxyethyl)ether (diethylene glycol). *J Chem Thermodyn* 13:61-66.
- Amoozegar A, Warrick AW, Fuller WH. 1986. Movements of selected organic liquids into dry soils. *Hazardous Waste and Hazardous Materials* 3:29-41.
- Amstrup SC, Gardner C, Myers KC, et al. 1989. Ethylene glycol (antifreeze) poisoning in a free-ranging polar bear. *Vet Hum Toxicol* 31(4):317-319.
- Anbar M, Neta P. 1967. A compilation of specific bimolecular rate constants for the reactions of hydrated electrons, hydrogen atoms, and hydroxyl radicals with inorganic and organic compounds in aqueous solution. *Int J Appl Rad Isotopes* 18:493-523.
- *Andersson K, Levin J-O, Lindahl R, et al. 1982. Sampling of ethylene glycol and ethylene glycol derivatives in work-room air using Amberlite XAD resins. *Chemosphere* 11(11): 1115-1119.
- Andersson K, Levin J-O, Lindahl R, et al. 1984. Influence of air humidity on sampling efficiency of some solid adsorbents used for sampling organics from work-room air. *Chemosphere* 13(3):437-444
- Andrews LS, Snyder R. 1986. Toxic effects of solvents and vapors. In: Klaassen CD, Amdur MO, Doull J, eds. *Cassarett and Doull's toxicology: The basic science of poisons*. 3rd ed. New York, NY: MacMillan Publishing Co., 654-657.
- Angelini G, Meneghini CL. 1981. Contact allergy from propylene glycol. *Contact Dermatitis* 7: 197-198.
- Anonymous. 1970. Determination of the ethyl alcohol, isopropyl alcohol and propylene glycol content of essences and tinctures. *Flavour Industry* 1:313-315.
- Anonymous. 1987. Ethylene glycol intoxication due to contamination of water systems. Atlanta, GA: Centers for Disease Control, *Morbidity and Mortality Weekly Report* 36(36):611-614.
- AOAC. 1985. *Official methods of analysis*. 10th ed. and supplements. Washington, DC: Association of Official Analytical Chemists.
- *Apple FS, Googins MK, Resen D. 1993. Propylene glycol interference on gas-chromatographic assay of ethylene glycol. *Clinical Chemistry* 39:167.
- *Arulanantham K, Gene1 M. 1978. Central nervous system toxicity associated with ingestion of propylene glycol. *J Pediatr* 93:515-516.
- *ASTER. 1995a. Assessment Tools for the Evaluation of Risk. ASTER output for propylene glycol. U. S. Environmental Protection Agency.

8. REFERENCES

*ASTER. 1995b. Assessment Tools for the Evaluation of Risk. ASTER output for ethylene glycol. U. S. Environmental Protection Agency.

Atkinson R. 1985. Kinetics and mechanisms of the gas-phase reactions of hydroxyl radical with organic compounds under atmospheric conditions. *Chem Rev* 85:69-201.

Atkinson R. 1987. A structure-activity relationship for the estimation of rate constants for the gas-phase reactions of OH radicals with organic compounds. *International Journal of Chemical Kinetics* 19:799-828.

Atkinson R. 1989. Kinetics and mechanisms of the gas-phase reactions of the hydroxyl radical with organic compounds. *Journal of Physical and Chemical Referenced Data Monograph* 1.

*ATSDR. 1989. Decision guide for identifying substance-specific data needs related to toxicological profiles. Agency for Toxic Substances and Disease Registry, Division of Toxicology, Atlanta, GA.

*ATSDR/CDC. 1990. Subcommittee report on biological indicators of organ damage. Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, Atlanta, GA.

Aungst BJ, Blake JA, Hussain MA. 1990. Contributions of drug solubilization, partitioning, barrier disruption, and solvent permeation to the enhancement of skin permeation of various compounds with fatty acids and amines. *Pharmaceutical Research* 7(7):712-718.

Balikova M, Kohlicek J. 1988. Rapid determination of ethylene glycol at toxic levels in serum and urine. *Journal of Chromatography* 434:469-474.

Ball NA. 1984. Determination of ethylene oxide, ethylene chlorohydrin and ethylene glycol in aqueous solutions and ethylene oxide residues in associated plastics. *J Pharm Sci* 73(9): 1305-1307.

*Ballarin C. 1980. [Studies on the identification of pharmacopeial glycols by thin-layer chromatography.] *Pharm Prax* 35:260-264. (German)

*Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk assessments. *Regul Toxicol Pharmacol* 8:471-486.

Battersby NS, Wilson V. 1989. Survey of the anaerobic biodegradation potential of organic chemicals in digesting sludge. *Appl Environ Microbiol* 55(2):433-439.

Baud FJ, Bismuth C, Gamier R, et al. 1987. 4-Methylpyrazole may be an alternative to ethanol therapy for ethylene glycol intoxication in man. *J Toxicol Clin Toxicol* 24(6):463 -483.

8. REFERENCES

- Baud FJ, Galliot M, Astier A, et al. 1988. Treatment of ethylene glycol poisoning with intravenous 4-methylpyrazole. *N Engl J Med* 319(2):97-100.
- *Bauer MC, Weiss DJ, Perman V. 1991. Hematologic alterations in adult cats fed 6 or 12% propylene glycol. *American Journal of Veterinary Research* 53:69-72.
- *Bauer MC, Weiss DJ, Perman V. 1992. Hematological alterations in kittens induced by 6 and 12% dietary propylene glycol. *Vet Hum Toxicol* 34(2):127-131.
- Beckett SD, Shields RP. 1971. Treatment of acute ethylene glycol (antifreeze) toxicosis in the dog. *J Amer Vet Med Assoc* 158(4):472-476.
- Bedard RG. 1976. Biodegradability of organic compounds. Master of Science Thesis, Connecticut University, Storrs, Connecticut. Prepared for Office of Water Research and Technology, Washington, DC. NTIS no. PB-264707.
- Berger JR, Ayyar DR. 1981. Neurological complications of ethylene glycol intoxication. *Arch Neurol* 38:724-726.
- Bidmon HJ, Pitts JD, Solomon I-IF, et al. 1990. Estradiol distribution and penetration in rat skin after topical application, studied by high resolution autoradiography. *Histochemistry* 95(1):43-54.
- Bieszkiewicz E, Van Hoi D, Matusiak K. 1979. Effects of methyl alcohol and ethylene glycol on the work of activated sludge. *Acta Microbial Pol* 28(3):255-260.
- Blakeley KR, Rinner SE, Knochel JP. 1993. Survival of ethylene glycol poisoning with profound acidemia. *New England Journal of Medicine* 328(7):515-516.
- Blandford DE, Desjardins PR. 1994. A rapid method for measurement of ethylene glycol. *Clinical Biochemistry* 27(1):25-30.
- Blomstrom DC, Beyer EM. 1980. Plants metabolise ethylene to ethylene glycol. *Nature* 283(5742):66-68.
- Blood FR. 1965. Chronic toxicity of ethylene glycol in the rat. *Food Cosmet Toxicol* 3:229-234.
- Blood FR, Elliot GA, Wright MS. 1962. Chronic toxicity of ethylene glycol in the monkey. *Toxicol Appl Pharmacol* 4:489-491.
- Boatman RJ, Cunningham SL, Ziegler DA. 1986. A method for measuring the biodegradation of organic chemicals. *Environ Toxicol Chem* 5:233-243.
- Boer-mans HJ, Ruegg PL, Leach M. 1988. Ethylene glycol toxicosis in a pygmy goat. *J Am Vet Med Assoc* 193(6):694-696.

8. REFERENCES

- Bogusz M. 1980. Vitreous humour as reliable material for ethanediol determinations. *Forensic Sci Int* 16(1):75-76.
- *Bogusz M, Bialka J, Gierz J, et al. 1986. Rapid determination of ethylene glycol in biological material. *Z Rechtsmed* 96(1):23-26.
- Bolbot JA, Anthony C. 1980. The metabolism of 1,2-propanediol by the facultative methylotroph *pseudomonas* AML. *J Gen Microbiol* 120:245-254.
- Bond GG, Shellenberger RJ, Flores GH, et al. 1985. A case-control study of renal cancer mortality at a Texas chemical plant. *Am J Ind Med* 7(2):123-139.
- Bonitenko I, Kutsenko SA, Kuposov ES, et al. 1990. [Acute poisoning with ethylene glycol esters.] *Klin Med* 68:126-130. (Russian)
- *Borgerding MF, Milhous LA Jr, Hicks RD, et al. 1990. Cigarette smoke composition: Part 2. Method for determining major components in smoke of cigarettes that heat instead of burn tobacco. *J Assoc Off Anal Chem* 73(4):610-615.
- Bost RO, Sunshine I. 1980. Ethylene glycol analysis by gas chromatography. *J Anal Toxicol* 4(2):102-103.
- Boublik T, Fried V, Hala E. 1973. The vapour pressures of pure substances: Selected values of the temperature dependence of the vapour pressures of some pure substances in the normal and low pressure region. New York, NY: Elsevier Scientific Publishing Company, 1-5, 99, 119.
- Boyd RD, Haworth C, Stacey TE, et al. 1976. Permeability of the sheep placenta to unmetabolized polar non-electrolytes. *J Physiol* 256(3):617-634.
- *Brazeau GA, Fung JL. 1990. Mechanisms of creatine kinase release from isolated rat skeletal muscles damaged by propylene glycol and ethanol. *J Pharm Sci* 79(5):393-397.
- *Brega AA, Quadri P, Villa ,et al. 1992. Improved HPLC determination of plasma and urine oxalate in the clinical diagnostic laboratory. *Journal of Liquid Chromatography* 15(3):501-511.
- Bridie A, Wolff CJM, Winter M. 1979. BOD and COD of some petrochemicals. *Water Research* 13:627-630.
- Bronaugh RL, Franz TJ. 1986. Vehicle effects on percutaneous absorption: In vivo and in vitro comparisons with human skin. *Lipids* 21(5):309-314.
- Brown DJ, Jain NC, Fomey RB, et al. 1968. Gas chromatographic assay of glycol-ethanol combinations in biological materials. *J Forensic Sci* 13(4): 537-543.
- Browning E. 1965. Toxicity and metabolism of industrial solvents. New York, NY: American Elsevier, 594-600, 642-644.

8. REFERENCES

- Capo MA, Sevil MB, Lopez ME, et al. 1993. Ethylene Glycol action on neurons and its cholinomimetic effects. *Journal of Environmental Pathology, Toxicology and Oncology*. 12(3): 155-159.
- Carney E, Liberacki A, Bartels M, et al. 1995. Identification of proximate toxicant for ethylene glycol developmental toxicity using rat whole embryo culture. *The Toxicologist* 15(1):163.
- *Casazza JP, Fretas J, Stambuk D, et al. 1987. The measurement of 1,2Propanediol, D, L-2,3-Butanediol and Meso-2,3-Butane&ol in controls and alcoholic cirrhotics. *Alcohol,& Alcohoism Suppl* 1, 607-609.
- Caskey WH, Taber WA. 1981. Oxidation of ethylene glycol by a salt-requiring bacterium. *Appl Environ Microbial* 42(1): 180-1 83.
- *Castle L, Cloke HR, Crews C, et al. 1988a. The migration of propylene glycol, mono-, di-, and triethylene glycols from regenerated cellulose film into food. *Z Lebensm Unters Forsch* 187(5):463 -467.
- *Castle L, Cloke HR, Star-tin Jr, et al. 1988b. Gas chromatographic determination of monoethylene glycol and diethylene glycol in chocolate packaged in regenerated cellulose film. *J Assoc Off Anal Chem* 71(3):499-502.
- Catanzaro JM, Smith JG Jr. 1991. Propylene glycol dermatitis. *J Am Acad Dermatol* 24(1):90-95.
- Cate JC, Hedrick R. 1980. Propylene glycol intoxication and lactic acidosis. *N Engl J Med* 303:1237.
- CELDs. 1994. Computer-assisted Environmental Legislative Database. University of Illinois at Urbana.
- Chemical and Engineering News. 1994. Organics led last years top 50 chemicals production increase. 13.
- Cheng JT, Beysolow TD, Kaul B, et al. 1987. Clearance of ethylene glycol by kidneys and hemodialysis. *J Toxicol Clin Toxicol* 25(1-2):95-108.
- Cheng YS, Marshall TC, Kanapilly GM. 1982. Generation and characterization of ethylene glycol vapors and aerosols. *Am Ind Hyg Assoc J* 43(4):250-253.
- Cheung ST, Lin WN. 1987. Simultaneous determination of methanol, ethanol, acetone, isopropanol and ethylene glycol in plasma by gas chromatography. *J Chromatogr* 414(1):248-250.

8. REFERENCES

Child J, Willetts A. 1978. Microbial metabolism of aliphatic glycols: Bacterial metabolism of ethylene glycol. *Biochim Biophys Acta* 538(2):316-327.

Chou JY, Richardson KE. 1978. The effect of pyrazole on ethylene glycol toxicity and metabolism in the rat. *Toxicol Appl Pharmacol* 43(1):33-44.

*Chou WL, Speece RE, Siddiqi RH. 1979. Acclimation and degradation of petrochemical wastewater components by methane fermentation. *Biotechnol Bioeng Symp* 8:391-414.

Christian KL, Moorehead WP. 1985. Ethylene dichloride/ethylene glycol spill in a major water resource in British Columbia. *J Environ Health* 47:192-196.

Christopher MM, Eckfeldt JH, Eaton JW. 1990a. Propylene glycol ingestion causes D-lactic acidosis. *Lab Invest* 62:114-118.

*Christopher MM, Eckfeldt JH, Eaton JW. 1990b. Propylene glycol ingestion causes D-lactic acidosis. *Laboratory Investigation*. 62(1): 114-118.

*Christopher MM, Perman V, Eaton JW. 1989a Contribution of propylene glycol-induced Heinz body formation to anemia in cats. *J Am Vet Med Assoc* 194(8):1045-1056.

Christopher MM, Perman V, White JG, et al. 1989b. Propylene glycol-induced Heinz body formation and D-lactic acidosis in cats. *Prog Clin Biol Res* 319:69-92.

Chum A, Amma MKP. 1985. Changes in the hepatic carbohydrate metabolism of propane- 1,2 diol fed rats. *IRCS Med Sci* 13:958.

Chung PK, Tuso P. 1989. Cerebral computed tomography in a stage IV ethylene glycol intoxication. *Conn Med* 53(9):513-514.

*Clark .CR, Marshall TC, Merickel BS, et al. 1979. Toxicological assessment of heat transfer fluids proposed for use in solar energy applications. *Toxicol Appl Pharmacol* 51:529-535.

Clay KL, Murphy RC. 1977. On the metabolic acidosis of ethylene glycol intoxication. *Toxicol Appl Pharmacol* 39:39-49.

CMR. 1990. Chemical profile: Ethylene glycol. *Chemical Marketing Reporter*, New York, NY.

Colwell RR, Sayler GS. 1978. Microbial degradation of industrial chemicals. *Water Pollut Microbial* 2:111-134.

*Commens CA. 1990. Topical propylene glycol and hyperosmolarity. *Br J Dermatol* 122(1):77-80.

Conway RA, Waggy GT, Spiegel MH, et al. 1983. Environmental fate and effects of ethylene oxide. *Environ Sci Technol* 17(2):107-112.

8. REFERENCES

- Coon RA, Jones RA, Jenkins LJ Jr, et al. 1970. Animal inhalation studies of ammonia, ethylene glycol, formaldehyde, dimethylamine, and ethanol. *Toxicol Appl Pharmacol* 16:646-655.
- *Corazza M, Virgili A, Mantovani L, et al. 1993. Propylene glycol allergy from acyclovir cream with cross-reactivity to hydroxypropyl cellulose in a transdermal estradiol system? *Contact Dermatitis* 29(5):283-284.
- Costa J, Soley J, Mata J, et al. 1985. Biodegradation of ethylene glycol. *Effluent and Water Treatment Journal* 25(12):429-434.
- Cox DP. 1978. The biodegradation of polyethylene glycols. *Adv Appl Microbiol* 23:173-193.
- Crowell WA, Whitlock RH, Stout RC, et al. 1979. Ethylene glycol toxicosis in cattle. *Cornell Vet* 69(3):272-279.
- Cucuzzella A. 1992. Ethylene glycol poisoning. *J Gen Intern Med* 7(4):467.
- Cummings KC, Jatlow PI. 1982. Sample preparation by ultra-filtration for direct gas-chromatographic analysis of ethylene glycol in plasma. *J Anal Toxicol* 6(6):324-326.
- Cunningham KM, Goldberg MC, Weiner ER. 1985. The aqueous photolysis of ethylene glycol adsorbed on goethite. *Photochem Photobiol* 41(4):409-416.
- *Damien M, Luciano AA, Peluso JJ. 1989. Propanediol-induced alterations in membrane integrity, metabolism and developmental potential of mouse zygotes. *Human Reproduction* 4(8):969-974.
- *Damien M, Luciano AA, Peluso JJ. 1990. Propanediol alters intracellular pH and developmental potential of mouse zygotes independently of volume change. *Human Reproduction* 5(2):212-216.
- Danielson JW, Snell RP, Oxborrow GS. 1990. Detection and quantitation of ethylene oxide, 2-chloroethanol, and ethylene glycol with capillary gas chromatography. *J Chromatogr Sci* 28:97-101.
- *Daubert TE, Danner RP. 1980. Data compilation: Tables of physical and thermodynamic properties of pure compounds. American Institute of Chemical Engineers, Design Institute for Physical Property Data Project 801, The Pennsylvania State University.
- Daubert TE, Danner RP. 1985. Data compilation tables of properties of pure compounds. New York, NY: Design Institute for Physical Property Data, American Institute of Chemical Engineers, 450.

8. REFERENCES

- *Daubert TE, Danner RP. 1989. Physical and thermodynamic properties of pure chemicals: Data compilation. Design Institute for Physical Property Data, American Institute of Chemical Engineers. New York, NY: Hemisphere Pub Corp, 4 vol.
- *Dean ME, Stock BH. 1974. Propylene glycol as a drug solvent in the study of hepatic microsomal enzyme metabolism in the rat. *Toxicol Appl Pharmacol* 28:44-52.
- Demey HE, Daelemans R.A, Verpooten GA, et al. 1988. Propylene glycol-induced side effects during intravenous nitroglycerin therapy. *Intensive Care Med* 14(3):221-226.
- *Denning DW, Webster DB. 1987. Detrimental effect of propylene glycol on natural killer cell and neutrophil function. *J Pharm. Pharmacol.* 39:236-238.
- DePass LR, Frank FR, Weaver EV, et al. 1984. Ethylene glycol: Twenty-four month oncogenicity feeding study in mice. Bushy Run Research Center. Report 46-89.
- DePass LR, Garman RH, Woodside MD, et al. 1986a. Chronic toxicity and oncogenicity studies of ethylene glycol in rats and mice. *Fundam Appl Toxicol* 7(4):547-565.
- DePass LR, Woodside MD, Maronpot RR, et al. 1986b. Three-generation reproduction and dominant lethal mutagenesis studies of ethylene glycol in the rat. *Fundam Appl Toxicol* 7(4):566-572.
- *DeRudder D, De Graeve E, Van Severen R, et al. 1986. Quantification of ethylene chlorohydrin and ethylene glycol as potential reaction products in gas-sterilized medical-grade plastics. *J Clin Hosp Pharm* 11(2):125-130.
- Dial SM, Thrall MA, Harmar DW. 1989. 4-methylpyrazole as treatment for naturally acquired ethylene glycol intoxication in dogs. *J Am Vet Med Assoc* 195(1):73-76.
- Dial SM, Thrall MAH, Harmar DW. 1994. Efficacy of 4-methylpyrazole or treatment of ethylene glycol intoxication in dogs. *Am J Vet Res* 55(12):1762-1770.
- Diamandis EP, Efstathiou CE, Hadjiioannou TP. 1980. Automatic determination of ethylene glycol in anti-freeze solutions with a periodate-sensitive flow-through electrode. *Analyst* 105(1257):1203-1207.
- *Dorman DC, Haschek WM. 1991. Fatal propylene glycol toxicosis in a horse. *J Am Vet Med Assoc* 198(9):1643-1644.
- *Drajun J. 1991. Geochemistry and soil chemistry reactions occurring during in situ vitrification. *J Hazardous Materials* 26:343-364.
- Driver J, Tardiff RG, Sedik L, et al. 1993. In vitro percutaneous absorption of [¹⁴C] ethylene glycol. *J Expo Anal Environ Epidemiol* 3(3):277-284.

8. REFERENCES

Dwyer DF, Tiedje JM. 1983. Degradation of ethylene glycol and polyethylene glycols by methanogenic consortia. *Appl Environ Microbiol* 46(1):185-190.

Ebisuno S, Morimoto S, Yoshida T, et al. 1987. Effect of dietary calcium, and magnesium, on experimental renal tubular deposition of calcium oxalate crystal induced by ethylene glycol administration and its prevention with phytin and citrate. *Urol Int* 42:330-337.

Eckfeldt JH, Light RT. 1980. Kinetic ethylene glycol assay with use of yeast alcohol dehydrogenase. *Clin Chem* 26(9):1278-1280.

*Edinboro LE, Nanco CR, Soghioan DM, et al. 1993. Determination of ethylene glycol in serum utilizing direct injection on a wide-bore capillary column. *Therapeutic Drug Monitoring* 15:220-223.

Eichbaum FW, Yasaka WJ. 1976. Antiarrhythmic effect of solvents: Propylene glycol, benzyl alcohol. *Basic Res Cardiol* 71(4):355-370.

*Eisenreich SJ, Looney BB, Thornton JD. 1981. Airborne organic contaminants in the Great Lakes ecosystem. *Environ Sci Technol* 15(1):30-38.

*EPA. 1971. Tolerances and exemptions from tolerances for pesticide chemicals in or on raw agricultural commodities. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 180.1001.

*EPA. 1972a. Approval and promulgation of implementation plans. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 52.

EPA. 1972b. Anaerobic treatment of synthetic organic wastes. Washington, DC: U.S. Environmental Protection Agency, Office of Research and Monitoring.

*EPA. 1976. Frequency of organic compounds identified in water. Athens, GA: U.S. Environmental Protection Agency, Office of Research and Development, Environmental Research Laboratory.

EPA. 1977a. An index of refractory organics. Ada, OK: U.S. Environmental Protection Agency, Office of Research and Development, Robert S. Kerr Environmental Laboratory.

EPA. 1977b. Industrial process profiles for environmental use: Chapter 6. The industrial organic chemicals industry. Cincinnati, OH: U.S. Environmental Protection Agency, Office of Research and Development, Industrial Environment Research Laboratory. EPA-600/2-77-023f.

EPA. 1978. Ethylene oxide, ethylene chlorohydrin, and ethylene glycol: Proposed maximum residue limits and maximum levels of exposure. Washington, DC: U.S. Environmental Protection Agency. Federal Register 43:27474-27483.

8. REFERENCES

- *EPA. 1979. Investigation of selected potential environmental contaminants: Ethylene glycol, propylene glycols and butylene glycols. Washington, DC: U.S. Environmental Protection Agency, Office of Toxic Substances. EPA/56011 1-79-00.
- EPA. 1980. Ethylene glycol. Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Emissions Standards and Engineering Division. EPA-450/3-80-028d.
- *EPA. 1982. Tolerances and exemptions from tolerances for pesticide chemicals in or on raw agricultural commodities. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 180.142.
- *EPA. 1983. Standards of performance for new stationary sources. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 60.489.
- EPA. 1984a. CC/MS analysis of organics in drinking water concentrates and advanced waste treatment concentrates. Volume I: Analysis results for 17 drinking water, 16 advanced waste treatment and 3 process blank concentrates. Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, Health Effects Research Laboratory. EPA-600/1-84-020A.
- EPA. 1984b. Premanufacture notification exemptions: polymers. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 723 .250.
- *EPA. 1985a. Temperature corrections for organic solvents. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 796.1220.
- *EPA. 1985b. Environmental effects testing guidelines. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 797.
- *EPA. 1987a. Health and environmental effects document for propylene glycol. Washington, DC: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response.
- EPA. 1987b. Toxic chemical release reporting: Community right to know. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 372.65.
- EPA. 1987c. Toxic chemical release reporting: Community right to know. U.S. Environmental Protection Agency. Federal Register 52(107):21152-21177.
- *EPA 1987d. Organic chemicals, plastics, and synthetic fibers. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 414.
- *EPA. 1989a. Pesticides required to be reregistered: List C. U.S. Environmental Protection Agency. Federal Register 54(140):30846-30855.

8. REFERENCES

- *EPA. 1989b. Reregistration. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 152.146.
- *EPA. 1990a. Interim methods for development of inhalation reference doses. Washington, DC: U.S. Environmental Protection Agency. EPA/600/890/066A.
- * EPA. 1990b. Standards of performance for new stationary sources. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 60.
- EPA. 1993a. Reportable quantity adjustments. U.S. Environmental Protection Agency. Federal Register. 58 FR 54836.
- *EPA. 1993b. Standards of performance for new stationary sources. U.S. Environmental Protection Agency. Code of Federal Regulations. 40 CFR 60.707.
- *EPA. 1993c. New source performance standards. U.S. Environmental Protection Agency. Federal Register. 58 FR 45962.
- *EPA. 1995a. Test methods for evaluating solid waste. Method 8015b, revision 2, January 1995
“Nonhalogenated Organics Using GCIFTD SW 846.
- *EPA. 1995b. Test methods for evaluating solid waste; Method 8430 revision 0 January 1995;
“Nonhalogenated Organics Using GCLFID SW 846.
- *EPA 1995c. Toxic Chemical release inventory reporting form R and instructions. Office of Pollution, Prevention and Toxics. Washington DC EPA 745-K-95-051.
- *Eun HC, Kim YC. 1989. Propylene glycol allergy from ketoconazole cream. Contact Dermatitis 21(4):274-275.
- Evans WH David EJ. 1974. Biodegradation of mono-, di-, and triethylene glycols in river waters under controlled laboratory conditions. Water Research 8(2):97-100.
- Evans WH, Dennis A. 1973. Spectrophotometric determination of low levels in mono-, di-, and triethylene glycols in surface waters. Analyst 98(1172):782-791.
- Evmiridis NP. 1989. Periodate determination by FIA with chemiluminescence emission detection, and its application to ethylene glycol (ethanediol). Talanta 36(3):357-362.
- Factor SA, Lava NS. 1987. Ethylene glycol intoxication: A new stage in the clinical syndrome. NY State J Med 87(3):179-180.
- *FAO/WHO. 1974. Toxicological evaluation of certain food additives with a review of general principles and of specifications. In: 17th Report of the Joint FAO/WHO Expert Committee on Food Additives, Geneva, Switzerland, June 25-July 4, 1973. Geneva, Switzerland: Food and Agricultural Organization of the United Nations/World Health Organization.

8. REFERENCES

- Farsund T. 1978. Cell kinetics of mouse urinary bladder epithelium: VI. Changes in the proportions of cells with various nuclear DNA content after repeated doses of propylene glycol (1, 2-propanediol). *Virchows Arch [B]* 27(1): 1-6.
- FDA. 1973. Teratologic evaluation of compound FDA 71-56 (propylene glycol) in mice, rats, hamsters, and rabbits. PB-223 -822.
- FDA. 1974. Mutagenic evaluation of compound FDA 71-56 (propylene glycol). PB-245450.
- FDA. 1977a. Indirect food additives: Adhesives and components of coatings. Food and Drug Administration. Code of Federal Regulations. 21 CFR 175.105.
- FDA. 1977b. Indirect food additives: Adhesive coatings and components. Food and Drug Administration. Federal Register 42(50):14534-14554.
- FDA. 1977c. Propylene Glycol and Propylene Glycol Monostearate. Food and Drug Administration. Federal Register 42(117):30865-30866.
- *FDA. 1982. Generally recognized as safe. Food and Drug Administration. Code of Federal Regulations. 21 CFR 184.1666.
- FEDRIP. 1994. Federal Research in Progress. Dialog Information Service, Inc., Amarillo, TX.
- *FEDRIP. 1995. Federal Research in Progress. Dialog Information Service, Inc., Amarillo, TX. Fincher EL, Payne WJ. 1962. Bacterial utilization of ether glycols. *Appl Microbiol* 10:542-547.
- Flanagan RJ, Dawling S, Buckley BM. 1987. Measurement of ethylene glycol in biological specimens using derivatization and gas-liquid chromatography with flame ionization detection. *Ann Clin Biochem* 24(1):80-84.
- *Fligner CL, Jack R, Twiggs GA, et al. 1985. Hyperosmolality induced by propylene glycol: A complication of silver sulfadiazine therapy. *J Amer Med Assoc* 253(11):1606-1609.
- Florida. 1994. Personal conversation with G. Robbins to Marion Deerhake, Research Triangle Institute, regarding air quality guidelines. Florida Pine&s County Air Quality Office (9/29/94).
- Fait FF Jr, Cowell RL, Brobst DF, et al. 1985. X-ray powder diffraction and microscopic analysis of crystalluria in dogs with ethylene glycol poisoning. *Am J Vet Res* 46(11):2404-2408.
- Fox LE, Grauer GF, Dubielzig RR, et al. 1987. Reversal of ethylene glycol-induced nephrotoxicosis in a dog. *J Am Vet Med Assoc* 191(11):1433-1435.

8. REFERENCES

- Frantz SW, Beskitt JL, Grosse CM, et al. 1989. Ethylene glycol: Comparison of pharmacokinetics and material balance following single intravenous, oral and cutaneous administration to male and female Sprague-Dawley rats. Bushy Run Research Center, Union Carbide Corp., Report No. 5 1-543.
- Frantz SW, Tallant MJ, Beskitt JL. 1991. Ethylene glycol: comparisons of pharmacokinetic and material balance studies following single intravenous, peroral, and percutaneous administrations to female CD-1 mice. Bushy Run Research Center, Union Carbide Corp., Report No. 53-550.
- *Fraser AD, MacNeil W. 1993. Calorimetric and gas chromatographic procedures for glycolic acid in serum: the major toxic metabolite of ethylene glycol. *Clinical Toxicology* 31(3):397-405.
- Freitag D, Ballhom L, Geyer H, et al. 1985. Environmental hazard profile of organic chemicals: An experimental method for the assessment of the behaviour of organic chemicals in the ecosphere by means of simple laboratory tests with ¹⁴C labeled chemicals. *Chemosphere* 14(10):1589-1616.
- *Frosch PJ, Pekar U, Enzmann H. 1990. Contact allergy to propylene glycol: Do we use the appropriate test concentration ? *Dermatol Clin* 8(1): 111-1113.
- FSTRAC. 1990. Summary of state and federal drinking water standards and guidelines. U.S. Environmental Protection Agency. Chemical Communication Subcommittee, Federal-State Toxicology and Regulatory Alliance Committee (FSTRAC).
- Fuller EW Jr. 1969. Ethylene glycol: A review. *Med Leg Bull* 18(10):1-8.
- Gabow PA, Clay K, Sullivan JB, et al. 1986. Organic acids in ethylene glycol intoxication. *Ann Intern Med* 105(1):16-20.
- *Gaston LW, Stadtman ER. 1963. Fermentation of ethylene glycol by *Clostridium glycolicum*. *J Bacterial* 85:356-362.
- *Gaunt IF, Carpanin FMB, Grasso P, et al. 1972. Long-term toxicity of propylene glycol in rats. *Food Cosmet Toxicol* 10(2):151-162.
- Gebhardt DOE. 1986. The teratogenic action of propylene glycol (propanediol-1,2) and propanediol- 1,3 in the chick embryo. *Teratology* 1:153-162.
- Gerhold RM, Malaney GW. 1966. Structural determinants in the oxidation of aliphatic compounds by activated sludge. *J Water Pollut Contr Fed*.
- Gershoff SN, Andms SB. 1962. Effect of vitamin B6 and magnesium on renal disposition of calcium oxalate induced by ethylene glycol administration. *Proceedings of the Society for Experimental Biology and Medicine* 109:99-102.

8. REFERENCES

- *Giachetti C, Zanol G, Assandri A, et al. 1989. Determination of cyclic butylboronate esters of some 1,2- and 2,3-diols in plasma by high-resolution gas chromatography/mass spectrometry. *Biomedical and Environmental Mass Spectrometry* 18(8):592-597.
- *Glasgow AM, Boeckx RL, Miller MK, et al. 1983. Hyperosmolality in small Infants due to propylene glycol. *Pediatrics* 72(3): 353-355.
- Godolphin W, Meagher EP, Sanders HD, et al. 1980. Unusual calcium oxalate crystals in ethylene glycol poisoning. *Clin Toxicol* 16(4):479-486.
- Gonzalez CF, Taber WA, Zeitoun MA. 1972. Biodegradation of ethylene glycol by a salt-requiring bacterium. *Appl Microbial* 24(6):911-919.
- *Gordon HL, Hunter JM. 1982. Ethylene glycol poisoning: A case report. *Anaesthesia* 17:332-338.
- Grabinska-Loniewska A. 1974. Studies on the activated sludge bacteria participating in the biodegradation of methanol, formaldehyde and ethylene glycol: II. Utilization of various carbon and nitrogen compounds. *Acta Microbial Pol Ser B Microbial Appl* 6(2):83-88.
- Grafton TF, Hansen DK. 1987. In vitro embryotoxic effects of ethylene glycol in rats. *Teratogenesis, Carcinogenesis, and Mutagenesis* 7:483-489.
- Grauer GF, Thrall MA, Henre BA, et al. 1984. Early clinicopathologic findings in dogs ingesting ethylene glycol. *Am J Vet Res* 45(11):2299-2303.
- Grauer GF, Thrall MA, Henre BA, et al. 1987. Comparison of the effects of ethanol and 4-methylpyrazole on the pharmacokinetics and toxicity of ethylene glycol in the dog. *Toxicol Lett* 35(2-3):307-314.
- Griffiths AJF. 1979. Neurospora prototroph selection system for studying aneuploid production. *Environ Health Perspect* 31:75-80.
- Griffiths AJF. 1981. Neurospora and environmentally induced aneuploidy. *Short-Term Tests Chem Carcinog* 1981:187-199.
- Grosjean D. 1990. Atmospheric chemistry of toxic contaminants: 2. Saturated aliphatics: Acetaldehyde, dioxane, ethylene glycol ethers, propylene oxide. *Journal of the Air Waste Management Association* 40(11):1522-1531.
- Gupta RN. 1982. Liquid-chromatographic determination of ethylene glycol in plasma. *Clin Chem* 28(1):32-33.
- Giisten H, Klasinc L, Marie D. 1984. Prediction of the abiotic degradability of organic compounds in the troposphere. *Journal of Atmospheric Chemistry* 2:83-94.

8. REFERENCES

- Haines JR, Alexander M. 1975. Microbial degradation of polyethylene glycols. *Appl Microbiol* 29:621-625.
- Hamano T, Mitsunashi Y, Tanaka K, et al. 1984. Study of enzymic determination of food additives: II. Enzymic determination of propylene glycol in commercial foods. *Agric Biol Chemical* 48(10):2517-2521.
- *Hannuksela M, Forström L. 1978. Reactions to peroral propylene glycol. *Contact Dermatitis* 4(1):41-45.
- *Hannuksela M, Pirila V, Salo OP. 1975. Skin reactions to propylene glycol. *Contact Dermatitis* 1:112-116.
- Hansson P. 1990. Kinetic enzymic assay for ethylene glycol. *Clin Chim Acta* 189(2):243-244.
- Hansson P, Masson P. 1989. Simple enzymatic screening assay for ethylene glycol (ethane-1,2-diol) in serum. *Clin Chim Acta* 182(1):95-101.
- Harada T, Nagashima Y. 1975. Utilization of alklyether compounds by soil bacteria. *Journal of Fermentation Technology* 53(4):218-222.
- *Harris MW, Chapin RE, Lockhart AC, et al. 1992. Assessment of a short-term reproductive and developmental toxicity screen. *Fundamental and Applied Toxicology* 19(2):186-196.
- *Hartman PA, Bowman PB. 1977. Simple GLC determination of ethylene oxide and its reaction products in drugs and formulations. *J Pharm Sci* 66(6):789-792.
- Hatfield R. 1957. Biological oxidation of some organic compounds. *Industrial and Engineering Chemistry* 49:192-196.
- *Hattori T, Maehashi H. 1993. Propylene glycol-induced skeletal muscle excitation. *Food Chem Toxicol* 31(9):647-650.
- *HazDat. 1995. Database. Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, GA. August 21, 1995.
- Heckerling PS. 1987. Ethylene glycol poisoning with a normal anion gap due to occult bromide intoxication. *Ann Emerg Med* 16(12): 1384-1386.
- *Helrich, K. 1990a. Method 970.61; Propylene glycol in cosmetics. *Official Methods of Analysis of the AOAC, 15th Edition*. AOAC, Arlington, VA
- *Helrich, K. 1990b. Method 97 1.02; Glycerol, propylene glycol, and triethylene glycol in cased cigarette cut filler and ground tobacco. *Official Methods of Analysis of the AOAC, 15th Edition*, AOAC, Arlington, VA.

8. REFERENCES

- *Helrich, K. 1990c. Method 947.09; Propylene glycol in vanilla extract. Official Methods of Analysis of the AOAC, 15th Edition, AOAC, Arlington, VA.
- Hertz CD, Oxenford JL, Warner JS. 1990. Development of analytical method for compliance monitoring of ethylene glycol, n-hexane, methyl ethyl ketone, and formaldehyde in drinking water. Proc Water Qual Technol Conf 171651-665.
- Hewlett TP, Jacobsen D, Collins TD, et al. 1989. Ethylene glycol and glycolate kinetics in rats and dogs. Veterinary and Human Toxicology 31(2): 116- 120.
- *Hewlett TP, McMartin KE, Lauro AJ, et al. 1986. Ethylene glycol poisoning: The value of glycolic acid determinations for diagnosis and treatment. J Toxicol Clin Toxicol 24(5):389-402.
- *Hewlett TP, Ray AC, Reagor JC. 1983. Diagnosis of ethylene glycol (antifreeze) intoxication in dogs by determination of glycolic acid in serum and urine with high pressure liquid chromatography and gas chromatography-mass spectrometry. J Assoc Off Anal Chem 66(2):276-283.
- *Hine J, Mookjee PK. 1975. The intrinsic hydrophilic character of organic compounds: Correlations in terms of structural contributions. J Org Chem 40(3):292-298.
- *Hodgson AT, Wooley JD, Daisey JM. 1993. Emissions of volatile organic compounds from new carpets measured in a large-scale environmental chamber. J Air and Waste Management Association 43:316-324.
- Holman NW Jr, Mundy RL, Teague RS. 1979. Alkyldiol antidotes to ethylene glycol toxicity in mice. Toxicol Appl Pharmacol 49(2):385-392.
- Holopainen JK. 1992. Catch and sex ratio of Carabidae (Coleoptera) in pitfall traps filled with ethylene glycol or water. Pedobiologia 36:257-261.
- Hong HL, Canipe J, Jameson CW, et al. 1988. Comparative effects of ethylene glycol and ethylene glycol monomethyl ether exposure on hematopoiesis and histopathology in B6C3F1 mice. J Environ Pathol Toxicol Oncol 8(7):27-38.
- Horiuti K, Sakoda T, Takei M, et al. 1992. Effects of ethylene glycol on the kinetics of contraction on flash photolysis of caged ATP in rat psoas muscle fibres. J Muscle Res Cell Motil 13(2):199-205.
- *House P, Chaussard J, Harry P, et al. 1993. Simultaneous determination of ethylene glycol, propylene glycol, 1,3 -butylene glycol and 2,3 -butylene glycol in human serum and urine by wide-bore column gas chromatography. J Chromatography 619:251-257.

8. REFERENCES

- *Howard PH, Boethling RS, Jarvis WF, et al, eds. 1991. Handbook of environmental degradation rates. Chelsea, MI: Lewis Publishers, Inc. 392-393.
- *HSDB. 1995a. Ethylene glycol. Hazardous Substances Data Bank. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.
- *HSDB. 1995b. Propylene glycol. Hazardous Substances Data Bank. National Library of Medicine, National Toxicology Information Program, Bethesda MD.
- *Huff E. 1961. Metabolism of 1,2-propanediol. *Biochim Biophys Acta* 48:506-517.
- *Huggon I, James I, Macrae D. 1990. Hyperosmolality related to propylene glycol in an infant treated with enoximone infusion. *BMJ* 301(6742):19-20.
- Hughes RD, Gove CD, Williams R. 1991. Protective effects of propylene glycol, a solvent used pharmaceutically, against paracetamol-induced liver injury in mice. *Biochem Pharmacol* 42(3):710-713.
- Hughes S, Meschi PL, Johnson DC. 1981. Amperometric detection of simple alcohols in aqueous solutions by application of a triple-pulse potential waveform at platinum electrodes. *Anal Chim Acta* 132: 1-10.
- Hughes TW, Tiemey DR, Khan ZS. 1979. Measuring fugitive emissions from petrochemical plants. *Chemical Engineering Progress* 75:35-39.
- Hylander B, Karlsson K, Person H, et al. 1989. Death and chronic renal failure CFR in severe ethylene glycol EG intoxication. *Kidney Int* 35(1):228.
- Introna F Jr, Smialek JE. 1989. Antifreeze (ethylene glycol) intoxications in Baltimore (Maryland, USA): Report of six cases. *Acta Morphol Hung* 37(3-4):245-264.
- *IRIS. 1995. Integrated Risk Information System (IRIS). Online. Ethylene glycol and propylene glycol. U.S. Environmental Protection Agency, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH, October 3, 1995.
- *Iwinski G, Jenke DR. 1987. Determination of alcohols in pharmaceuticals by ion-exclusion chromatography. *J Chromatogr* 392:397-405.
- Jacobsen D, Hewlett TP, Webb R, et al. 1988. Ethylene glycol intoxication: Evaluation of kinetics and crystalluria. *Am J Med* 84(1): 145- 152.
- Jacobsen D, McMartin KE. 1986. Methanol and ethylene glycol poisonings: Mechanism of toxicity, clinical course, diagnosis and treatment. *Med Toxicol* 1(5):309-334.

8. REFERENCES

- Jacobsen D, Ovrebo S, Ostborg J, et al. 1984. Glycolate causes acidosis in ethylene glycol poisoning and is effectively removed by hemodialysis. *Acta Med Scand* 216:409-416.
- Jacobsen D, Sebastian CS, Barron SK, et al. 1990. Effects of 4-methylpyrazole, methanol/ethylene glycol antidote, in healthy humans. *J Emerg Med* 8(4):455-461.
- Jar-vie DR, Simpson D. 1957. Simple screening test for the emergency identification of methanol and ethylene glycol in poisoned patients. *Clin Chem* 36(11):1957- 1961.
- Jenkins LD, Cook KA, Cain RB. 1979. Microbial degradation of polyethylene glycols. *J Appl Bacteriol* 47(1):75-85.
- Johanson G. 1989. Analysis of ethylene glycol ether metabolites in urine by extractive alkylation and electron-capture gas chromatography. *Arch Toxicol* 63(2):107- 111.
- Johanson G, Michel I, Norback D, et al. 1989. Biological monitoring of exposure to ethylene glycol ethers. *Arch Toxicol Suppl* 13:108-1 11.
- Jones AW, Nilsson L, Gladh A, et al. 1991. 2,3-Butanediol in plasma from an alcoholic mistakenly identified as ethylene glycol by gas-chromatographic analysis. *Clin Chem* 37(8): 1453-1455.
- Jones N, Watson GK. 1976. Ethylene glycol and polyethylene glycol catabolism by a sewage bacterium. *Biochem Soc Trans* 4(5):1-892.
- *Jonsson JA, Eklund A, Molin L. 1989. Determination of ethylene glycol in postmortem blood by capillary gas chromatography. *J Anal Toxicol* 13(1):25-26.
- *Kaiser RE, Rieder RI. 1987. Native ethylene glycol in wine: Application of a dead volume free, very fast “deans heart-cut” system on-line with multi-chromatography. *J High Resolut Chromatogr Commun* 10(5):240-243.
- *Kaplan DL, Walsh JT, Kaplan AM. 1982. Gas chromatographic analysis of glycols to determine biodegradability. *Environ Sci Technol* 16:723-725.
- Karlson-Stiber C, Persson H. 1992. Ethylene glycol poisoning: Experiences from an epidemic in Sweden. *Clinical Toxicology* 30(4):565-574.
- *Kashtock M, Breder CV. 1980. Migration of ethylene glycol from polyethylene terephthalate bottles into 3% acetic acid. *J Assoc Off Anal Chem* 63(2):168-172.
- Katz M. 1975. Intersociety committee (ISC) methods of air sampling and analysis. *Health Lab Sci* 12:359-422.
- *Kavlock RJ, Short RD, Chemoff N. 1987. Further evaluation of an in vivo teratology screen. *Teratogenesis, Carcinogenesis, and Mutagenesis* 7:7-16.

8. REFERENCES

- *Kelner MJ, Bailey DN. 1985. Propylene glycol as a cause of lactic acidosis. *Journal of Analytical Toxicology* 9(1):40-42.
- Kerstens K, Deley J. 1963. The oxidation of glycols by acetic acid bacteria. *Biochim Biophys Acta* 71:311-331.
- Kersting EJ, Nielsen SW. 1965. Ethylene glycol poisoning in small animals. *J Amer Vet Med Assoc* 146(2):113-118.
- Khan SR, Shevock PN, Hackett RL. 1993. Magnesium oxide administration and prevention of calcium oxalate nephrolithiasis. *J Urol* 149:412-416.
- Khera KS. 1991. Chemically induced alterations in maternal homeostasis and histology of conceptus: Their etiologic significance in rat fetal anomalies. *Teratology* 44(3):259-297.
- Khoury GA, Adbelghani AA, Anderson AC. 1993. Bioaccumulation and depuration of ethylene glycol by crayfish (*Procambarus* spp.) *Environmental Toxicology and Water Quality* 8:25-31.
- Kiba N, Goto K, Furusawa M. 1986. Determination of glycerol, propane-1,2-diol and triglycerides by high-performance liquid chromatography and a post-column reactor containing immobilized glycerol dehydrogenase. *Anal Chim Acta* 185:287-294.
- *Kinnunen T, Hannuksela M. 1989. Skin reactions to hexylene glycol. *Contact Dermatitis* 21(3):154-158.
- *Kirk-Othmer Encyclopedia of Chemical Technology. 1978. 3rd edition. Vol. 3, 79-95.
- Kirk-Othmer Encyclopedia of Chemical Technology. 1980. 3rd edition. Vol. 11, 933-956.
- *Klaus R, Fischer W. 1987. A means of analyzing glycols especially ethylene glycol and diethylene glycol by a method used for the determination of carbohydrates in alcoholic beverages. *Chromatographia* 23(2): 137-140.
- *Klecka GM, Carpenter CL, Landenberger BD. 1993. Biodegradation of aircraft deicing fluids in soil at low temperatures. *Ecotoxicology and Environmental Safety* 25:280-295.
- *Konradova V, Vavrova V, Janota J. 1978. Effect of the inhalation of a surface tension-reducing substance (propylene glycol) on the ultrastructure of the epithelium of the respiratory passages in rabbits. *Folia Morpho* 126(1):28-34.
- Kramer JW, Bistline D, Sheridan P, et al. 1984. Identification of hippuric acid crystals in the urine of ethylene glycol-intoxicated dogs and cats. *J Am Vet Med Assoc* 184(5):584.

8. REFERENCES

Kring EV, Damrell DJ, Basilio AN Jr, et al. 1984. Laboratory validation and field verification of a new passive air monitoring badge for sampling ethylene oxide in air. *Am Ind Hyg Assoc J* 45(10):697-707.

Kukielka E, Cederbaum AI. 1991. Oxidation of ethylene glycol to formaldehyde by rat liver microsomes: Role of cytochrome P-450 and reactive oxygen species. *Drug Metabolism and Disposition* 19:1108-1115.

*Kulick MI, Wong R, Okarma TB et al. 1985. Prospective study of side effects associated with the use of silver sulfadiazine in severely burned patients. *Ann Plast Surg* 14(5):407-419.

Lahti A. 1980. Nonimmunologic contact urticaria. *Acta Dermato-Venerol* 60(Supp 91):1-49.

Lamb JC, Maronpot RR, Gulati DK, et al. 1985. Reproductive and developmental toxicity of ethylene glycol in the mouse. *Toxicol Appl Pharmacol* 81:100-112.

Lang RF. 1986. Determination of polar organic solutes in methanol using hot on-column injection capillary gas chromatography. *Anal Chem* 58(6): 1259-1261.

Lauwerys R, Bernard A, Viau C, et al. 1985. Kidney disorders and hematotoxicity from organic solvent exposure. *Stand J Work Environ Health* 11(Supp11):83-90.

LDOTD. 1990. Fate of ethylene glycol in the environment. Baton Rouge, LA: Louisiana Department of Transportation and Development, Louisiana Transportation Research Center.

LeGatt DF, Tisdell RH. 1990. Ethylene glycol quantification: Avoid propylene glycol as an internal standard. *Clin Chem* 36(10): 1860-1861.

Lenk W, Loehr D, Sonnenbichler J. 1989. Pharmacokinetics and biotransformation of diethylene glycol and ethylene glycol in the rat. *Xenobiotic* 19(9):961-979.

*Lewis RJ. 1993a. *Hawley's Condensed Dictionary*, 12th Edition; p 487, ethylene glycol. Van Nostrand Reinhold Co., New York.

*Lewis RJ. 1993b. *Hawley's Condensed Dictionary*, 12th Edition; p 970-971, propylene glycol. Van Nostrand Reinhold Co., New York.

Litovitz T. 1986. The alcohols: Ethanol, methanol, isopropanol, ethylene glycol. *Pediatr Clin North Am* 33(2):311-323.

Litovitz TL, Schmitz BF, Bailey KM. 1990. 1989 Annual report of the American Association of Poison Control Centers national data collection system. *Toxicology* 8(5):394-431.

Litovitz TL, Schmitz BF, Bailey KM. 1991. 1990 Annual report of the American Poison Control Centers national data collection system. *Toxicology* 9(5):461-500.

8. REFERENCES

- Loden M. 1986. The in vitro permeability of human skin to benzene, ethylene glycol, formaldehyde, and n-hexane. *Acta Pharmacol Toxicol* 58(5):382-389.
- Lokke H. 1984. Leaching of ethylene glycol and ethanol in subsoils. *Water Air Soil Pollut* 22:373-387.
- *Lolin Y, Francis DA, Flanagan RJ, et al. 1988. Cerebral depression due to propylene glycol in a patient with chronic epilepsy the value of the plasma osmolal gap in diagnosis. *Postgrad Med J* 64(754):610-613.
- *Louekari K, Scott AO, Salminen S. 1990. Estimation of food additive intakes. In: Branen AL, Davidson P, Salminen S, eds. *Food Science Technology*. Vol. 35: Food additives. New York, NY: Marcel Dekker, Inc., 9-32.
- Lundberg P, Lof A, Johanson G, et al. 1991. New Swedish occupational standards for some organic solvents. *Am J Ind Med* 19(5):559-567.
- Lyman WJ, Reehl WF, Rosenblatt DH. 1982. *Handbook of chemical property estimation methods*. New York, NY: McGraw-Hill, 5 - 4.
- Magerl H, Poelmann E, Hager W. 1983. Determination of ethylene glycol by head-space gas chromatography. *Z Rechtsmed* 90(3):205-209.
- Mallya KB, Mendis T, Guberman A. 1986. Bilateral facial paralysis following ethylene glycol ingestion. *Can J Neural Sci* 13(4):340-341.
- Malrnlund HO, Berg A, Karlman G, et al. 1991. Considerations for the treatment of ethylene glycol poisoning based on analysis of two cases. *J Toxicol Clin Toxicol* 29(2):231-240.
- *Manius GJ. 1979. Determination of ethylene oxide, ethylene chlorohydrin, and ethylene glycol residues in ophthalmic solutions at proposed concentration limits. *J Pharm Sci* 68(12): 1547-1549.
- Mantica E, Botta D, Pirri L. 1986. Pollution conditions of the aquifer beneath a plant producing alkyd resins. In: *Comm Eur Communities, Eur 10388. Org Micropollut Aquat Environ*, 89-106.
- Marion CV, Malaney GW. 1963. The oxidation of aliphatic compounds by *Alcaligenes faecalis*. *J Water Pollut Control Fed* 35:1269-1284.
- Maronpot RR, Zelenak JP, Weaver EV, et al. 1983. Teratogenicity study of ethylene glycol in rats. *Drug and Chemical Toxicology* 6(6):579-594.
- Marr MC, Price CJ, Myers CB, et al. 1992. Developmental stages of the CD (Sprague-Dawley) rat skeleton after maternal exposure to ethylene glycol. *Teratology* 46(2): 169- 181.

8. REFERENCES

- Marshall DA, Doty RL. 1990. Taste responses of dogs to ethylene glycol, propylene glycol, and ethylene glycol-based antifreeze. *J Am Vet Med Assoc* 197(12): 1599-1602.
- Marshall TC. 1979. Pharmacokinetics of ethylene glycol following intravenous administration to rats. Annual Report on Inhalation Toxicological Research Institute, Lovelace Biomedical Environmental Research Institute, 571-574.
- Marshall TC. 1982. Dose-dependent disposition of ethylene glycol in the rat after intravenous administration. *J Toxicol Environ Health* 10:397-409.
- Marshall TC, Cheng YS. 1983. Deposition and fate of inhaled ethylene glycol vapor and condensation aerosol in the rat. *Fundam Appl Toxicol* 3(3):175-181.
- Martis L, Kroes T, Darby TD, et al. 1982. Disposition kinetics of ethylene oxide, ethylene glycol, and 2-chlorethanol in the dog. *J Toxicol Environ Health* 10:847-856.
- Matsui S, Murakami T, Sasaki T, et al. 1975. Activated sludge degradability of organic substances in the waste water of the Kashima petroleum and petrochemical industrial complex in Japan. *Prog Water Technol* 7(3-4):645-650.
- *Matusik JE, Eilers PP, Waldron EM, et al. 1993. Confirmation of identities of propylene and ethylene glycols in anchovies by tandem mass spectrometry. *J Association of Official Analytical Chemistry International* 76: 1344-1347.
- Maurer H, Kessler C. 1988. Identification and quantification of ethylene glycol and diethylene glycol in plasma using gas chromatography-mass spectrometry. *Arch Toxicol* 62(1):66-69.
- Maylin GA. 1980. A simple method for detecting ethylene glycol in urine by thin layer chromatography. *Cornell Vet* 70(2) :202-205.
- McCallum NK, Muirhead JM. 1982. Gas-chromatographic determination of propane-1,2-diol in flavour bases, flavoured and natural wines. *Food Technology in New Zealand* 17(8):34-35.
- McCann J, Choi E, Yamasaki E, et al. 1975. Detection of carcinogens as mutagens in the Salmonella/microsome test: Assay of 300 chemicals. *Proc Nat Acad Sci* 72:5135-5139.
- McCarroll NE, Piper CE, Keech BH. 1981. An E. coli micro-suspension assay for the detection of DNA damage induced by direct-acting agents and promutagens. *Environ Mutagen* 3:429-444.
- McCurdy HH, Solomons ET. 1982. Improved procedure for determination of ethylene glycol in blood. *J Anal Toxicol* 6(5):253-254.

8. REFERENCES

- McDonald TO, Kasten K, Hervey R, et al. 1973. Acute ocular toxicity of ethylene oxide, ethylene glycol, and ethylene chlorohydrin. *Bull Pat-enter Drug Assoc* 27(4):153-164.
- McGahey C, Bouwer EJ. 1992. Biodegradation of ethylene glycol in simulated subsurface environments. *Water Science Technology* 26:41-49.
- Means JL, Anderson SJ. 1981. Comparison of five different methods for measuring biodegradability in aqueous environments. *Water Air and Soil Poll* 16:301-315.
- Melnick RL. 1984. Toxicities of ethylene glycol and ethylene glycol mot-methyl ether in Fischer 344/N rats and B6C3Fl mice. *Environ Health Perspect* 57:147-155.
- Meola JM, Rosano TG, Swift TA. 1980. Fluorimetry of ethylene glycol in serum. *Clin Chem* 26(12): 1709.
- *Merck Index. 1989a. The Merck index: An encyclopedia of chemicals, drugs, and biologicals. 11th ed. Budavari S, ed. Rahway, NJ: Merck and Co., Inc., 379, 7810
- *Merck Index. 1989b. The Merck index: An encyclopedia of chemicals, drugs, and biologicals. 11th ed. Budavari S, ed. Rahway, NJ: Merck and Co., Inc., 3759, 7810.
- Mikheev MI, Gorlinskaya Y, Solovyova TV. 1990. The body distribution and biological action of xenobiotics. *J Hyg Epidemiol Microbial Immunol* 34(4):329-336.
- Mill T, Hendry DG, Richardson H. 1980. Free radical oxidants in natural waters. *Science* 207(22):886-887.
- *Miller ON, Bazzano G. 1965. Propanediol metabolism and its relation to lactic acid metabolism. *Ann NY Acad Sci* 119:959-973.
- Miller W. 1990. Ethylene glycol toxicity. *Del Med J* 62(10):1267-1272.
- Mitsuhashi Y, Hamano T, Tanaka K, et al. 1985. [Enzymatic analysis of propylene glycol in foods by the use of glycerol dehydrogenase.] *J Food Hyg Sot Jpn* 26:290-294. (Japanese)
- Moffatt EJ, Hagardom AN, Ferslew KE. 1986. A gas-liquid chromatographic method for quantitation of 1,3-butylene glycol in whole blood or plasma and the separation of the short chain glycols. *J Anal Toxicol* 10(1):35-37.
- Momont SL, Dahlberg PJ. 1989. Ethylene glycol poisoning. *Wis Med J* 88(9): 16-20.
- Moriarty RW, McDonald RH Jr. 1974. The spectrum of ethylene glycol poisoning. *Clin Toxicol* 7(6):538-596.

8. REFERENCES

- *Morris HJ, Nelson AA, Calvery HO. 1942. Observations on the chronic toxicities of propylene glycol, ethylene glycol, diethylene glycol, ethylene glycol mono-ethyl-ether and diethylene glycol mono-ethyl-ether. *J Pharmacol Exp Therap* 74:266-273.
- *Morshed KM, Desjeux JF, Nagpaul JP, et al. 1991a. The effect of propanediols on the intestinal uptake of nutrients and brush border membrane enzymes in the rat. *Biochem Med Metab Biol* 45(2):161-170.
- *Morshed KM, Helgoualch AL, Nagpaul JP, et al. 1991b. The role of propylene glycol metabolism in lactatemia in the rabbit. *Biochemical Medicine and Metabolic Biology* 46:145-151.
- Morshed KM, Jain SK, McMartin K. 1993. Acute toxicity of propylene glycol: An assesment using cultured proximal tube cells of human origin. *Fundam App Toxicol* 23:38-43.
- Morshed KM, Nagpaul JP, Amma MKP, et al. 1991. The role of propylene glycol metabolism in lactatemia in the rabbit. *Biochem Med Metab Biol* 46:145-151.
- *Morshed KM, Nagpaul JP, Majumdar S, et al. 1988. Kinetics of propylene glycol elimination and metabolism in rat. *Biochem Med Metab Biol* 39(1):90-97.
- *Morshed KM, Nagpaul JP, Majumdar S, et al. 1989. Kinetics of oral propylene glycol-induced acute hyperlactatemia. *Biochem Med Metab Biol* 42(2):87-94.
- Murphy MJ, Ray AC, Jones LP, et al. 1984. 1,3-Butanediol treatment of ethylene glycol toxicosis in dogs. *Am J Vet Res* 45(11):2293-2295.
- Mushtaq E, Green LE. 1989. Effect of ethylene glycol on the interaction of different myosin subfragment I-Nucleotide complexes with actin. *Biochemistry* 28:6478-6482.
- *Muzeni RJ. 1985. Rapid gas chromatographic determination of ethylene oxide, ethylene chlorohydrin, and ethylene glycol residues in rubber catheters. *J Assoc Off Anal Chem* 68(3):506-508.
- Myers VS Jr, Usenik EA. 1969. Propylene glycol intoxication of horses. *J Am Vet Med Assoc* 155(12):1841.
- Nagano K, Nakayama E, Oobayashi H, et al. 1984. Experimental studies on toxicity of ethylene glycol alkyl ethers in Japan. *Environ Health Perspect* 57:75-84.
- *NAS/NRC. 1989. Biologic markers in reproductive toxicology. National Academy of Sciences/National Research Council. Washington, DC: National Academy Press, 15-35.
- Nater JP, Baar AJM, Hoedemaeker J. 1977. Histological aspects of skin reactions to propylene glycol. *Contact Dermatitis* 3:181-185.

8. REFERENCES

- *NATICH. 1991. National Air Toxics Information ClearingHouse. Data base report on state, local, and EPA air toxics activities. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Washington, DC. August 13, 1991.
- *Needham LL, Hill RH Jr, Otti DL, et al. 1982. Electron-capture, capillary column gas chromatographic determination of low-molecular-weight diols in serum. *J Chromatogr* 233:9-17.
- Neeper-Bradley TL. 1990. Developmental toxicity evaluation of ethylene glycol administered by gavage to CD (Sprague-Dawley) rats: Determination of a Bno observed effect level (NOEL). Bushy Run Research Center. CMA Project Report 52-656.
- *Nelson EB, Egan JM, Abemethy DR. 1987. The effect of propylene glycol on antipyrine clearance in humans. *Clin Pharmacol Ther* 41(5):571-573.
- Nestrick TJ, Lamparski LL, Peters TL. 1983. Low-splitting-rating injector for capillary gas chromatography. *Anal Chem* 55(12):2009-2011.
- *NFPA. 1994a. Fire Protection Guide to Hazardous Materials, 11th Edition, page 325-50; ethylene glycol National Fire Protection Association, Quincy, MA.
- *NFPA. 1994b. Fire Protection Guide to Hazardous Materials, 11th Edition, page 325-82, propylene glycol. National Fire Protection Association, Quincy, MA.
- Nguyen TD, Matsuura T, Sourirajan S. 1987. A fundamental approach to reverse-osmosis concentration and fractionation of organic chemicals in aqueous solutions for environmental analysis. In: Suffet IH, Malaiyandi M, eds. *Advances in chemistry series*, 214. Organic pollutants in water: Sampling, analysis, and toxicity testing. Washington, DC: American Chemical Society, 139-162.
- NIOSH. 1974. National Occupational Hazard Survey (NOHS). Volume 1: Survey manual. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, Office of Occupational Health Surveillance and Biometrics.
- *NIOSH. 1984. NIOSH manual of analytical methods. 3rd ed. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. NIOSH100184336.
- NIOSH. 1990. National Occupational Exposure Survey (NOES) 1981-1983. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health.
- NIOSH. 1994. Health hazard evaluation report. National Institute for Occupational Safety and

8. REFERENCES

Health, Centers for Disease Control and Prevention, Public Health Service, U. S. Department of Health and Human Services. Heta 90-0355-2449.

NRC. 1994. Personal conversation with K. Bakshi to Marion Deerhake, Research Triangle Institute, regarding the compilation of current EEGs and CEGs. National Research Council, Committee on Toxicology, National Academy of Sciences.

NREPC. 1986. New or modified sources emitting toxic air pollutants. Frankfort, KY: Department for Environmental Protection, National Resources and Environmental Protection Cabinet. 401 KAR 63:022.

*NTDB. 1995. (CD-ROM) US Dept. of Commerce Census, Economics and Statistics Administration. Washington DC.

*NTP. 1985. Propylene glycol: Reproduction and fertility assessment in CD-1 mice when administered in drinking water. Final report. National Toxicology Program. NTP-84-FACB-038.

NTP. 1988. Developmental toxicity evaluation of ethylene glycol (CAS No. 107-21-1) in CD rats. Final report. National Toxicology Program, National Institute of Environmental Health Sciences. NTP-88-079.

NTP. 1992. Toxicology and carcinogenesis studies of ethylene glycol in B6C3F1 mice. Document no. NTP TR 413. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Toxicology Program. NTH publication no. 91-3144.

Ochs ML, Glick MR, Ryder WW, et al. 1988. Improved method for emergency screening for ethylene glycol in serum. Clin Chem 34(7):1507-1508.

OHM/TADS. 1985. Oil and Hazardous Materials/Technical Assistance Data System, Chemical Information Systems, Inc., Baltimore, MD. December, 1985.

Oliver JJ. 1993. A comatose man with marked acidosis and crystaluria. Hospital Practice 28(7):86-88.

OSHA. 1987. Access to employee exposure and medical records. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1910.20.

OSHA. 1988. Access to employee exposure and medical records. Occupational Safety and Health Administration. Federal Register 53:38140, 38163.

OSHA. 1989a. Toxic and hazardous substances. Occupational Safety and Health Administration. Code of Federal Regulations. 29 CFR 1910.1000.

8. REFERENCES

OSHA. 1989b. Toxic and hazardous substances. Occupational Safety and Health Administration. Federal Register 54:2920-2960.

*OTA. 1990. Neurotoxicity: Identifying and controlling poisons of the nervous system. Office of Technology Assessment, Washington, DC. OTA-BA-438.

*Ouattara AS, Cuzin N, Traore AS, et al. 1992. Anaerobic degradation of 1,2-propanediol by a new *Desulfovibrio* strain and *D. alcoholovorans*. Arch Microbiol 158:218-225.

Ovrebo S, Jacobsen D, Sejersted OM. 1987. Determination of ionic metabolites from ethylene glycol in human blood by isotachopheresis. J Chromatogr Biomed Appl 416(1): 111-118.

Pant SK, Thomas KM, Gupta PN, et al. 1989. Detection of presence of diethylene glycol in glycerin. Indian J Pharm Sci 51(2):57-58.

Parry MF, Wallach R. 1974. Ethylene glycol poisoning. Amer J Med 57(1):143-150.

Pearl RG, Rice SA. 1989. Propylene-glycol-induced pulmonary hypertension in sheep. Pharmacology 39(6):383-389.

Penumarthy L, Oehme FW. 1975. Treatment of ethylene glycol toxicosis in cats. Am J Vet Res 36(2):209-212.

Perl W, Silverman F, Delea AC, et al. 1976. Permeability of dog lung endothelium to sodium, diols, amides, and water. Am J Physiol 230(6):1708-1721.

Peterson CD, Collins AJ, Himes JM, et al. 1981. Ethylene glycol poisoning: Pharmacokinetics during therapy with ethanol and hemodialysis. New Eng J Med 304:21-23.

Peterson RL, Rodgerson DO. 1974. Gas-chromatographic determination of ethylene glycol in serum. Clin Chem 20(7):820-824.

*Petroff OA, Yu RK, Ogino T. 1986. High-resolution proton magnetic resonance analysis of human cerebrospinal fluid. J Neurochem 47(4): 1270- 1276.

*Pfeiffer EH, Dunkelberg H. 1980. Mutagenicity of ethylene oxide and propylene oxide and of the glycols and halohydrins formed from them during the fumigation of foodstuffs. Food Cosmet Toxicol 18:115-118.

Poikolainen K, Vuori E. 1985. Risk of fatal alcohol poisoning by marital and occupational status. Alcohol Alcohol 20(3):329-332.

Price CJ, Kimmell CA, Tyl RW, et al. 1985. The developmental toxicity of ethylene glycol in rats and mice. Toxicol Appl Pharmacol 81(1):113-127.

8. REFERENCES

- Price KS, Waggy GT, Conway RA. 1974. Brine shrimp bioassay and seawater BOD of petrochemicals. *J Water Pollut Contr Fed* 46(1):63-77.
- Quince JR, Gardner GL. 1982. Recovery and treatment of contaminated groundwater: Part II. *Ground Water Monitoring Review, Special Issue*. Fall 1982:6-13.
- Quinn DA, Robinson D, Hales CA. 1990. Intravenous injection of propylene glycol causes pulmonary hypertension in sheep. *J Appl Physiol* 68(4):1415-1420.
- *Raja LMV, Elamvaluthy G, Palaniappan R, et al. 1991. Novel biotreatment process for glycol waters. *Appl Biochem Biotechnology* (28-29):827-842.
- Rajagopal G, Ramakrishnan S. 1975. A new method for estimation of ethylene glycol in biological material. *Anal Biochem* 65(1-2):132-136.
- Rajagopal G, Ramakrishnan S. 1978. Effect of ethylene glycol toxicity on hepatic carbohydrate metabolism in rats. *Toxicol Appl Pharmacol* 46(2):507-516.
- Rajagopal G, Venkatesan K, Ranganathan P, et al. 1977. Calcium and phosphorus metabolism in ethylene glycol toxicity in rats. *Toxicol Appl Pharmacol* 39(3):543-547.
- Randall PM, Gavaskar AR. 1993. Evaluation of filtration and distillation methods for recycling automotive coolants. U.S. Environmental Protection Agency, Risk Reduction Engineering Laboratory, Office of Research and Development, Cincinnati, OH. EPA/600/J-931435. PB 94-101912
- Rice SF, Steeper RR, LaJeunesse CA. 1993. Destruction of representative navy wastes using supercritical water oxidation. Sandia National Laboratories, Albuquerque, NM. DE 94-003139
- Richardson KE. 1973. The effect of partial hepatectomy on the toxicity of ethylene glycol, glycolic acid, glyoxilic acid and glycine. *Toxicol Appl Pharmacol* 24:530-538.
- *Rigg PC, Barry BW. 1990. Shed snake skin and hairless mouse skin as model membranes for human skin during permeation studies. *J Invest Dermatol* 94(2):235-240.
- *Riley JH, Stahr HM, O'Brien S, et al. 1982. Urine and tissue oxalate and hippurate levels in ethylene glycol intoxication in the dog. *Veterinary Hum Toxicol* 24(5):331-334.
- Roberts JA, Seibold HR. 1969. Ethylene glycol toxicity in the monkey. *Toxicol Appl Pharmacol* 15(3):624-631.
- *Robertson OH, Loosli CG, Puck TT. 1947. Test for chronic toxicity of propylene glycol and triethylene glycol on monkeys and rats by vapor inhalation and oral administration. *J Pharmacol Exper Therap* 91:52-76.

8. REFERENCES

- Robinson D, McCoy CA. 1989. Ethylene glycol toxicity. *Crit Care Nurse* 9(6):70-74.
- Robinson DW, Reive DS. 1981. A gas chromatographic procedure for quantitation of ethylene glycol in postmortem blood. *J Anal Toxicol* 5(2):69-72.
- Robinson M, Pond CL, Laurie RD, et al. 1990. Subacute and subchronic toxicity of ethylene glycol administered in drinking water to Sprague-Dawley rats. *Drug Chem Toxicol* 13:43-70.
- Rofe AM, Bais R, Conyers RAJ. 1986. The effect of dietary refined sugars and sugar alcohols on renal calcium oxalate deposition in ethylene glycol-treated rats. *Food Chem. Toxic* 24(5):397-403.
- Romaguera C, Perez AG, Moran M, et al. 1981. Propylene glycol in standard patch tests. *Contact Dermatitis*. 7(6):346.
- Rossa V, Weber U. 1990. Effect of ethylene glycol on rabbit retinas. *Ophthalmologica* 200(2):98-103.
- *Rossol M. 1990. Theatrical fogs and smokes: A report on their hazards. American Guild of Musical Artists.
- *Rossol M. 1993. Comments on Technical Report for Ethylene Glycol/Propylene Glycol. Submitted to ATSDR on Sept. 7, 1993.
- Rothman A, Normann SA, Manoguerra AS, et al. 1986. Short-term hemodialysis in childhood ethylene glycol poisoning. *J Pediatr* 108:153-155.
- *Rowe VK, Wolf MA. 1982. Glycols. In: Clayton GD, Clayton FE, eds. *Patty's industrial hygiene and toxicology*. Volume 2C: Toxicology. 3rd. ed. New York, NY: John Wiley & Sons, 3817-3853.
- Rowland J. 1987. Incidence of ethylene glycol intoxication in dogs and cats seen at Colorado State University Veterinary Teaching Hospital. *Vet Hum Toxicol* 29(1):41-44.
- *Ruddick JA. 1972. Toxicology, metabolism, and biochemistry of 1,2-propanediol. *Toxicol Appl Pharmacol* 21(1):102-111.
- Ruegsegger GJ, Schultz LH. 1986. Use of a combination of propylene glycol and niacin for subclinical ketosis. *J Dairy Sci* 69(5):1411-1415.
- Ryder KW, Glick MR, Jackson SA. 1986. Emergency screening for ethylene glycol in serum. *Clin Chem* 32(8):1574-1577.
- Saini M, Meenakshi KM, Amma MKP. 1987. Propane 1,2 diol induced changes in plasma proteins and enzymes on acute oral ingestions in female rats. *Res Bull Panjab Univ Sci* 38(3):79-86,

8. REFERENCES

Sakoda T, Horiuti K. 1992. Effects of ethylene glycol and calcium on the kinetics of contraction induced by photo-released of low concentrations of ATP in rat psoas muscle fibres. *J Muscle Res Cell Motil* 13(4):464-472.

Saladino R, Shannon M. 1991. Accidental and intentional poisonings with ethylene glycol in infancy: Diagnostic clues and management. *Pediatr Emerg Care* 7(2):93-96.

Schramm M, Wanick AW, Fuller WH. 1986. Permeability of soils to four organic liquids and water. *Hazardous Waste and Hazardous Materials* 3(1):21-27.

Schuler RL, Hardin BD, Niemeier RW, et al.. 1984. Results of testing fifteen glycol ethers in a short-term in vivo reproductive toxicity assay. *Environmental Health Perspectives* 57: 141-146.

*Schumacher JN, Green CR, Best FW, et al. 1977. Smoke composition: An extensive investigation of the water-soluble portion of cigarette smoke. *J Agric Food Chem* 25(2):310-320.

Sheldon LS, Hites RA. 1979. Environmental occurrence and mass spectral identification of ethylene glycol derivatives. *Sci Total Environ* 11(3):279-286.

Sherertz EF, Sloan KB, McTieman RG. 1990. Transdermal delivery of 5-fluorouracil through skin of hairless mice and humans in vitro: A comparison of the effect of formulations and a prodrug. *Arch Dermatol Res* 282(7):463-468.

*Shoemaker JD, Lynch RE, Hoffmann JW, et al. 1992. Misidentification of propionic acid as ethylene glycol in a patient with methylmalonic acidemia. *J Pediatr* 120:417-421.

Siew S, Matta RK, Johnson M. 1975a. Investigation of "crystallosis" in ethylene glycol toxicity. *Scanning Electron Microscopy* 8:555-562.

Siew S, Matta RK, Johnson M. 1975b. Microanalysis of crystals in biological tissue. In: *Proceedings from the 10th Annual Conference of the Microbeam Analysis Society, MGM Hotel, Las Vegas, Nevada., August 11-15, 1975. Bethlehem, PA: Lehigh University, Metallurgy and Materials Science Department, 48-A - 48-D.*

*Sills RD, Blakeslee PA. 1992. The environmental impact of deicers in airport stormwater runoff. In: *Chemical Deicers and the Environment. Boca Raton, FL: Lewis Publishers, 323-340.*

*Simmons P, Branson D, Bailey R. 1976. 1,2,4-Trichlorobenzene: Biodegradable or not? In: *Book pap, Int Tech Conf. Research Triangle Park, NC: American Association Text, 212-217,*

Simpson E. 1985. Some aspects of calcium metabolism in a fatal case of ethylene glycol poisoning. *Ann Clin Biochem* 2290-93.

8. REFERENCES

*Sisfontes L, Nyborg G, Jones AW, et al. 1986. Occurrence of short chain aliphatic diols in human blood: Identification by gas chromatography-mass spectrometry. *Clin Chim Acta* 155(2):117-122.

Slave T, Mihail A, Burmaz N. 1974. [Degradation of some organic impurities in residual waters.] *Rev Chim* 25:666-670. (Hungarian)

Smith BJ, Anderson BG, Smith SA, et al. 1990. Early effects of ethylene glycol on the ultrastructure of the renal cortex in dogs. *Am J Vet Res* 51(1):89-96.

*Smith NB. 1984. Determination of serum ethylene glycol by capillary gas chromatography. *Clin Chim Acta* 144(2-3):269-272.

Smith NB. 1987a. Identification and elimination of an ethylene glycol determination artifact. *Clin Chim Acta* 162(1):105-108.

Smith NB. 1987b. Measurement of ethylene glycol in biological specimens. *Ann Clin Biochem* 24:639-640.

Smith NB, Rawal N. 1987. Lack of interference of tris(hydroxymethyl)methylamine with the determination of volatile alcohols or ethanediol in serum by capillary gas chromatography. *Clin Chem* 33(12):2324.

Speece RE. 1983. Anaerobic biotechnology for industrial wastewater treatment. *Environ Sci Technol* 17(9):416A-427A.

Speth PA, Vree TB, Neilen NP, et al. 1987. Propylene glycol pharmacokinetics and effects after intravenous infusion in humans. *Ther Drug Monit* 9(3):255-258. .

Spillane L, Roberts JR, Meyer AE. 1991. Multiple cranial nerve deficits after ethylene glycol poisoning. *Ann Emerg Med* 20(2):208-210.

Spitz HD, Weinberger J. 1971. Determination of ethylene oxide, ethylene chlorohydrin, and ethylene glycol by gas chromatography. *J Pharm Sci* 60(2):271-274.

*SRI. 1989. Directory of Chemical Producers -United States of America. Stanford Research Institute International Menlo Park, Ca.

*SRI. 1991. Directory of Chemical Producers -United States of America. Stanford Research Institute International Menlo Park, Ca. 620-621; 936

*SRI. 1993. Directory of Chemical Producers -United States of America. Stanford Research Institute International Menlo Park, Ca. 598; 890

*SRI. 1995. Directory of Chemical Producers -United States of America. Stanford Research Institute International Menlo Park, Ca. 590; 875

8. REFERENCES

- Stein ZLG, Bar-kin RL, Lipscomb JW, et al. 1983. Ethylene glycol toxicity and treatment. *Drug Intell Clin Pharm* 17:376-377.
- Steinhart B. 1990. Case report: Severe ethylene glycol intoxication with normal osmolal gap—"a chilling thought." *J Emerg Med* 8(5):583-585.
- Steinke W, Arendt G, Mull M, et al. 1989. Good recovery after sublethal ethylene glycol intoxication: Serial EEG and CT findings. *J Neurol* 236(3):170-173.
- *Stenback F, Shubik P. 1974. Lack of toxicity and carcinogenicity of some commonly used cutaneous agents. *Toxicol Appl Pharmacol* 30:7-13.
- Stevens HM. 1986. The detection of some non-drug poisons in simulated stomach contents by diffusion into various color reagents. *J Forensic Sci* 26:(2)137-145.
- *Studer VA, Grummer RR, Bertics SJ, et al. 1993. Effect of prepartum propylene glycol administration on periparturient fatty liver in dairy cows. *J Dairy Sci* 76(10):2931-2939.
- *Suber RL, Deskin R, Nikiforov I, et al. 1989. Subchronic nose-only inhalation study of propylene glycol in Sprague-Dawley rats. *Food Chem Toxicol* 27(9):573-584.
- *Swarm RL, Laskowaski DA, McCall PJ, et al. 1983. A rapid method for the estimation of the environmental parameters octanol water partition coefficient, soil sorption constant, water to air ratio, and water solubility. Dow Chemical Company, Springer-Verlag New York Inc. *Residue Reviews* 85: 18-28.
- *Swenberg JA, Petzold GL, Harbach PR. 1976. In vitro DNA damage/alkaline elution assay for predicting carcinogenic potential. *Biochemical and Biophysical Research Communications* 72(2):732-738.
- *Takeuchi Y, Yasukawa H, Yamaoka Y, et al. 1993. Effects of Oleic Acid/propylene glycol on rat abdominal stratum corneum: Lipid extraction and appearance of propylene glycol in the dermis measured by fourier transform infrared/attenuated total reflectance (FT-IR/ATR) spectroscopy. *Chem Pharm. Bull* 41(8):1434-1437.
- *Takeuchi Y, Yasukawa H, Yamaoka Y, et al. 1995. Behavior of Propylene Glycol (PG) in dermis after treatment of rat intact skin surface with fatty acids, fatty amines or azone dissolve in PG. *Biol Pharm Bull* 18(2):304-309.
- Tarr BD, Winters LJ, Moore MP, et al. 1985. Low-dose ethanol in the treatment of ethylene glycol poisoning. *J Vet Pharmacol Ther* 8(3):254-262.
- Texas. 1994. Personal conversation with M. Aponte-Pons to Marion Deerhake, Research Triangle Institute, regarding screening levels. Texas Conservation Commission (7/19/94).

8. REFERENCES

Thrall MA, Grauer GF, Mero KN. 1984. Clinicopathologic findings in dogs and cats with ethylene glycol intoxication. *J Am Vet Med Asso* 184(1):37-41.

*Trancik RJ, Maiback HI. 1982. Propylene glycol irritation or sensitization? Contact Dermatitis, 8:185-189.

*TRI90. 1992. Toxic Chemical Release Inventory. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.

*TRI91. 1993. Toxic Chemical Release Inventory. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.

*TRI92. 1994. Toxic Chemical Release Inventory. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.

*TRI93. 1995. Toxic Chemical Release Inventory. National Library of Medicine, National Toxicology Information Program, Bethesda, MD.

Triosi FM. 1950. Chronic intoxication by ethylene glycol vapour. *Brit J Industr Med* 7:65-69.

Tsukamura M. 1966. Utilization of glycols and certain other carbohydrates by mycobacteria as sole carbon sources. *Amer Rev Resp Dis* 94:796-798.

Tucker SP, Deye GJ. 1981. Sampling and analytical method for ethylene glycol in air. *Anal Lett* 14(A12):959-976.

Turpeinen M. 1991. Absorption of hydrocortisone from the skin reservoir in atopic dermatitis. *Br J Dermatol* 124(4):358-360.

Tyl RW. 1985. Evaluation of the teratogenic potential of ethylene glycol aerosol in the CD rat and CD-1 mouse. Bushy Run Research Center, Union Carbide Corp., Report No. 48-100.

Tyl RW. 1988a. Ethylene glycol: Developmental toxicity evaluation of the aerosol in CD-1 mice by nose-only or whole-body exposure. Bushy Run Research Center, Union Carbide Corp., Report No. 50-121.

Tyl RW. 1988b. Developmental toxicity evaluation of ethylene glycol applied cutaneously to CD-1 mouse. Bushy Run Research Center. CMA Project Report 50-597.

Tyl RW. 1989. Developmental toxicity evaluation of ethylene glycol administered by gavage to CD-1 mice: Determination of a "no-observed-effect-level" (NOEL). Bushy Run Research Center, CMA Project Report 51-591.

8. REFERENCES

- Tyl RW, Price CJ, Mar-r MC, et al. 1993. Developmental toxicity evaluation of ethylene glycol by gavage in New Zealand White (NZW) rabbits. *Fundamental and Applied Toxicology* 20:402-412.
- Underwood F, Bennett WM. 1973. Ethylene glycol intoxication: Prevention of renal failure by aggressive management. *J Am Med Asso* 226(12):1453-1454.
- Vale JA. 1979. Ethylene glycol poisoning. *Vet Hum Toxicol* 21: 118-120.
- Van Rillaer WG, Beemaert H. 1983. Determination of residual propane-Zdiol and propane-1,2-diol in soft drinks by glass-capillary gas chromatography. *Z Lebensm-Unters-Forsch* 177(3):196-199.
- Van Stee EW, Harris AM, Horton ML, et al. 1975. The treatment of ethylene glycol toxicosis with pyrazole. *J Pharmacol Exp Ther* 192(2):251-259.
- VANR. 1988. Vermont Agency of Natural Resources. Department of Environmental Conservation and Groundwater Protection. Washington, DC: Bureau of Affairs.
- Vassalli L, Harris DM, Gradini R, et al. 1988. Inflammatory effects of topical antibiotic suspensions containing propylene glycol in chinchilla middle ears. *Am J Otolaryngol* 9(1):1-5.
- Vernon J, Brummett R, Walsh T. 1978. The ototoxic potential of propylene glycol in guinea-pigs. *Arch Otolaryngol* 104(12):726-729.
- Verschueren K. 1977. Handbook of environmental data on organic chemicals. New York, NY: Van Nostrand Reinhold Company, 646-647, 1029.
- *Vesper SJ, Murdoch LC, Hayes S, et al. 1994. Solid oxygen source for bioremediation in subsurface soils. *J Hazardous Materials* 36: 265-274.
- Vincent R, Cicolelia A, Poirot P. 1990. Determination of glycol ethers in working atmospheres. *Analisis* 18(10):591-596.
- von Sonntag C. 1984. Carbohydrate radicals: From ethylene glycol to DNA strand breakage. *Int J Radiat Biol Relat Stud Phys Chem Med* 46(5):507-519.
- *Walker JE, Kaplan DL. 1992 . Biological degradation of explosives and chemical agents. *Biodegradation* 3(2-3):369-385.
- *Walters KM, Mason WD, Badr MZ. 1993. Effect of propylene glycol on the disposition of dramamine in the rabbit. *Drug Metabolism and Disposition* 21:305-308.
- Walton EW. 1978. An epidemic of antifreeze poisoning. *Med Sci Law* 18(4):231-237.

8. REFERENCES

- Wang F, Cassidy K, Lum B. 1993. Incineration alternatives for combustible waste. Ultraviolet/hydrogen peroxide process. Final Report to Rocky Flats Plant, Lawrence Livermore National Laboratory, CA. DE 93 018905.
- Ware GW. 1988. Ethylene Glycol. Review of Environmental Contamination and Toxicology 106:133-141.
- *Warshaw TG, Herrmann F. 1952. Studies of skin reactions to propylene glycol. J Invest Dermatol 19:423-429.
- Watson GK, Jones N. 1977. The biodegradation of polyethylene glycols by sewage bacteria. Water Research 11:95-100.
- *Weast RC. 1988a. CRC Handbook of Chemistry and Physics, 69th Edition, entry 6680, ethanediol CRC Press, Boca Raton, FL.
- *Weast RC. 1988b. CRC Handbook of Chemistry and Physics, 69th Edition, entry 11898, 1,2-propanediol CRC Press, Boca Raton, FL.
- *Weil CS, Woodside MD, Smyth HF Jr, et al. 1971. Results of feeding propylene glycol in the diet to dogs for two years. Food Cosmet Toxicol 9(4):479-490.
- *Weiss DJ, Bauer MC, Murphy MJ, et al. 1992. Increased mechanical fragility and intravascular lysis of erythrocytes in cats fed a propylene glycol-containing diet. Comparative Haematology International 2:157-161.
- *Weiss DJ, McClay CB, Christopher MM, et al. 1990. Effects of propylene glycol-containing diets on acetaminophen-induced methemoglobinemia in cats. J Am Vet Med Assoc 196(11):1816-1819.
- Wiener HL, Richardson KE. 1988. The metabolism and toxicity of ethylene glycol. Res Commun Subst Abus 9(2):77-87.
- Wierda A, Verhoeff J, van Dijk S, et al. 1985. Effects of trenbolone acetate and propylene glycol on pregnancy toxemia in ewes. Vet Rec 116(11):284-287.
- Willems A. 1981. Bacterial metabolism of ethylene glycol. Biochim Biophys Acta 677(2):194-199.
- *Williamson SA, Iverson WG. 1993. Determination of short-chain diols and selected fermentation by-products in beer. J American Society of Brewery Chemists 51:114-118.
- *Willis CM, Stephens CJ, Wilkinson JD. 1989. Epidermal damage induced by irritants in man: A light and electron microscopic study. J Invest Dermatol 93(5):695-699.
- *Willis CM, Stephens CJM, Wilkinson JD. 1988. Experimentally-induced irritant contact dermatitis: Determination of optimum irritant concentrations. Contact Dermatitis 18(1):20-24.

8. REFERENCES

Wills JH, Coulston F, Harris ES, et al. 1974. Inhalation of aerosolized ethylene glycol by man. *Clin Toxicol* 7(5):463-476.

Willson JE. 1970. Ethylene oxide sterilant residues. *Bull Parenter Drug Assoc* 24(5):226-234.

Winek CL, Shingleton DP, Shanor SP. 1978. Ethylene and diethylene glycol toxicity. *Clin Toxicol* 13(2):297-324.

*Winter ML, Ellis MD, Snodgrass WR. 1990. Urine fluorescence using a Wood's lamp to detect the antifreeze additive sodium fluorescein: A qualitative adjunctive test in suspected ethylene glycol ingestions. *Ann Emer Med* 19:663-667.

Wittman JS III, Bawin RR. 1974. Stimulation of gluconeogenesis by propylene glycol in the fasting rat. *Life Sci* 15(3):515-524.

Wittman JS III, Bawin RR, Miller ON. 1975. Inhibition of propylene glycol stimulated gluconeogenesis by quinolinic acid in the fasting rat. *Arch Biochem Biophys* 170(1):294-299.

Woodside MD. 1982. Ethylene glycol: Twenty-four month feeding in the diet of rats. Bushy Run Research Center, Union Carbide Chemicals and Plastics Co., Inc., Report No. 44-109.

Woolf AD, Wynshaw-Boris A, Rinaldo P, et al. 1992. Intentional infantile ethylene glycol poisoning presenting as an inherited metabolic disorder. *Pediatrics* 120(3):421-424.

Wright CG, Bird LL, Meyerhoff WL. 1991. Tympanic membrane microstructure in experimental cholesteatoma. *Acta Otolaryngol* 111(1):101-111.

*Wu NM, Malinin TI. 1987. High performance liquid chromatography determination of ethylene glycol and ethylene chlorohydrin in tissues. *J Anal Toxicol* 11(2):63-66.

Yaws CL, Yang HC, Hoppier JR, et al. 1990. Organic chemicals: Water solubility data. *Chem Engineering* 97:115-118.

*Yu DK, Elmquist WF, Sawchuk RJ. 1985. Pharmacokinetics of propylene glycol in humans during multiple dosing regimens. *J Pharm Sci* 74(8):876-879.

Yu DK, Sawchuk RJ. 1983. Gas-liquid chromatographic determination of propane-1,2-diol in plasma and urine. *Clin Chem* 29(12):2088-2090.

Yu DK, Sawchuk RJ. 1987. Pharmacokinetics of propylene glycol in the rabbit. *J Pharmacokinetic Biopharm* 15(5):453-471.

Zeiger E, Anderson B, Haworth S, et al. 1987. Salmonella mutagenicity tests: III. Results from the testing of 255 chemicals. *Environ Mutagen* 9(Suppl 9):1-109.

8. REFERENCES

Zeiss J, Velasco ME, McCann KM, et al. 1989. Cerebral CT of lethal ethylene glycol intoxication with pathologic correlation. *Am J Neuroradiol* 10(2):440-442.

Zimina LN, Budarina LS, Nazarenko AF. 1977. Morphological changes in the liver and kidneys in ethylene glycol poisoning. *Arkh Patol* 39(2):51-58.