8. REFERENCES

*Abbey DE, Lebowitz MD, Mills PK, et al. 1995. Long-term ambient concentrations of particulates and oxidants and development of chronic disease in a cohort of nonsmoking California residents. Inhalation Toxicology 7: 19-34.

*Abbey DE, Petersen FF, Mills PK, et al. 1993. Chronic respiratory disease associated with long term ambient concentrations of sulfates and other air pollutauts. J Expo Anal Environ Epidemiol 3(suppl 1):99-115.

ACGIH. 1991. Documentation of the threshold limit values and biological exposure indices. 6th ed. American Conference of Governmental Industrial Hygienists. Cincinnati, OH. 146 l-l 463.

*ACGIH. 1998. 1998 TLVs and BEIs threshold limit values for chemical substances and physical agents: Biological exposure indices. American Conference of Governmental Industrial Hygienists. Cincinnati, OH.

Ackerman-Liebrich U, Leuenberger P, Schwartz J, et al. 1997. Lung function and long term exposure to air pollutants in Switzerland. Am J Respir Crit Care Med 155:122-129.

*Adinolfi M. 1985 I The development of the human blood-csf-brain barrier. Dev Med Child Neural 27:532-537.

Afane Ze E, Roche N, Atchou G, et al. Respiratory symptoms and peak expiratory flow in survivors of the Nyos disaster. Chest 110(5):1278-1281.

*Ahlborg G Jr, Hogstedt C, Sundell L, et al. 1981. Laryngeal cancer and pickling house vapors. Stand J Work Env Health 7:239-240.

AIHA. 1989. Oleum, sulfur trioxide, and sulfuric acid. Emergency Response Planning Guidelines. American Industrial Hygiene Association, Fairfax, VA.

*Aktug T, Olguner M, Akgur FM. 1995. A case of gastric cicatrization caused by ingestion of sulfuric acid, treated with Hunt-Lawrence jejunal pouch substitution for the stomach. J Pediatr Surg 30: 1376-1377.

*Alarie Y, Busey WM, Krumm AA, et al. 1973. Long-term continuous exposure to sulfuric acid mist in cynomolgus monkeys and guinea pigs. Arch Environ Health 27: 16-24.

*Alarie YC, Krumm AA, Busey WM, et al. 1975. Long-term exposure to sulfur dioxide, sulfuric acid mist, fly ash, and their mixtures. Arch Environ Health 30:254-262.

*Albert RE, Alessandro D, Lippmann M, et al. 197 1. Long-term smoking in the donkey. Arch Environ Health 22:12-19.

*Alderson MR, Rattan NS. 1980. Mortality of workers on an isopropyl alcohol plant and two MEK dewaxing plants. Br J Ind Med 37:85-89.

---

*Cited in text

8. REFERENCES

*Altman PK Dittmer DS. 1974. Biological handbooks: Biology data book. Volume III, 2nd ed. Bethesda, MD: Federation of American Societies for Experimental Biology, 1987-2008, 2041.

*Altshuller AP. 1973. Atmospheric sulfur dioxide and sulfate: Distribution of concentration at urban and nonurban sites in United States. Environmental Science and Technology 7:709-712.

*Amdur MO. 1954. Effect of a combination of SO_2 and H_2SO_4 on guinea pigs. Public Health Rep 69:503-506.

*Amdur MO. 1958. The respiratory response of guinea pigs to sulfuric acid mist. Arch Ind Health 18:407-414.

*Amdur MO. 1959. The physiological response of guinea pigs to atmospheric pollutants. Int J Air Poll 1:170-183.

*Amdur MO. 1989a. Health effects of air pollutants: Sulfuric acid, the old and the new. Environ Health Perspect 81:109-113.

*Amdur MO. 1989b. Sulfuric acid: The animals tried to tell us. Appl Ind Hyg 4: 189-197.

Amdur MO, Chen LC. 1989. Furnace-generated acid aerosols: Speciation and pulmonary effects. Environ Health Perspect 79:147-150.

*Amdur MO, Dubriel M, Creasia DA. 1978. Respiratory response of guinea pigs to low levels of sulfuric acid. Environ Res 15:418-423.

*Amdur MO, Sarofim AF, Neville M, et al. 1986. Coal combustion aerosols and SO: An interdisciplinary analysis. Environmental Science and Technology 20:138-145.

*Amdur MO, Schulz RZ, Drinker P. 1952a. Toxicity of sulfuric acid mist to guinea pigs. AMA Archives of Industrial Hygiene and Occupational Medicine 5:318-329.

*Amdur MO, Silverman L, Drinker P. 1952b. Inhalation of sulfuric acid mist by human subjects. AMA Archives of Industrial Hygiene and Occupational Medicine 6.305-313.

Anderson HR, Ponce de Leon A, Bland JM, et al. 1996. Air pollution and daily mortality in London: 1987-92. BMJ 312:665-669.

Anderson HR, Spix C, Medina S. 1997. Air pollution and daily admissions for chronic obstructive pulmonary disease in 6 European cities: results from the APHEA project. Eur Respir J 10: 1064-1071.

*Andersen ME, Krishnan K. 1994. Relating in *vitro* to *in vivo* exposures with physiologically-based tissue dosimetry and tissue response models. In: Salem H, ed. Animal test alternatives. Aberdeen Proving Ground, Maryland: U.S. Army Chemical Research Development and Engineering Center.

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

8. REFERENCES

*Anderson KR, Avol EL, Edwards SA, et al. 1992. Controlled exposures of volunteers to respirable carbon and sulfuric acid aerosols J Air Waste Manage Assoc 42:770-776.

*Appel BR, Tanner RL, Adams DF, et al. 1987. Semi-continuous determination of atmospheric particulate sulfur, sulfuric acid, and ammonium sulfates (Method 713). In: Lodge JP, ed. Methods of air sampling and analysis. 3rd ed. Chelsea, MI: Lewis Publishers, Inc. 529-532.

*Aris R, Christian D, Sheppard D, et al. 1991. Lack of bronchoconstrictor response to sulfuric acid aerosols and fogs. Am Rev Respir Dis 143:744-750.

Ashtakala B, Eno LA. 1996. Minimum risk route model for hazardous materials. Journal of Transportation Engineering 122(5):350-357.

*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. 1990. Toxicological profile for ammonia. US Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry. TP-90-3.

*ATSDR. 1997. Toxicological profile for sulfur dioxide. US Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry (in preparation).

*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.

*Avol EL, Linn WS, Shamoo DA. 1990. Respiratory responses of young asthmatic volunteers in controlled exposures to sulfuric acid aerosol. Am Rev Respir Dis 142:343-348.

*Avol EL, Linn WS, Whynot JD, et al. 1988. Respiratory dose-response study of normal and asthmatic volunteers exposed to sulfuric acid aerosols in the sub-micrometer size range. Toxicol Ind Health 4: 173- 184.

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

*Bates DV, Sizto R. 1987. Air pollution and hospital admissions in Southern Ontario: The acid summer haze effect. Environ Res 43:317-331.

*Beaumont JJ, Leveton J, Knox IS, et al. 1987. Lung cancer mortality in workers exposed to sulfuric acid mist and other acid mists. J Nat1 Cancer Inst 79:911-921.

Bogdanffy MS, Mathison BH, Kuykendall JR, et al. 1997. Critical factors in assessing risk from exposure to nasal carcinogens. Mutat Res 380:125-141.

*Bond SJ, Schnier GC, Sundine MJ, et al. 1998. Cutaneous burns caused by sulfuric acid drain cleaner. The Journal of Trauma: Injury, Infection, and Critical Care 44(3):523-526.

*Botham PA, Hall TJ, Dennett R, et al. 1992. The skin cotrosivity test *in vitro.* Results of an interlaboratory trial. Toxic *in Vitro 6:* 19 1- 194.

8. REFERENCES

*Bowes SM Ill, Francis M, Laube BL, et al. 1995. Acute exposure to acid fog: Influence of breathing pattern on effective dose. Am Ind Hyg Assoc J 56:143-150.

*Branday J, Arscott GDL, Smoot EC, et al. 1996. Chemical burns as assault injuries in Jamaica. Bums 22:154-155.

*Brauer M, Koutrakis P, Spengler JD. 1989. Personal exposures to acidic aerosols and gases. Environmental Science and Technology 23: 1408-1412.

*Bronstein AC, Currance PL. 1988. Emergency care for hazardous materials exposure. St. Louis, MO: The C.V. Mosby Company, 111-112.

*Brownstein DG. 1980. Reflex-mediated desquamation of bronchiolar epithelium in guinea pigs exposed acutely to sulfuric acid aerosol. Amer J Pathol 98:577-590.

Buchdahl R, Parker A, Stebbings T, et al. 1996. Association between air pollution and acute childhood wheezy episodes: Prospective observational study. BMJ 3 12:66 l-665.

*Budavari S, ed. 1989. The Merck index. 1 lth ed. Rahway, NJ: Merck and Co., Inc. 8953-8954.

*C&EN. 1996. Chemical and Engineering News. Top 50 chemicals: Organics outpaced inorganics as production of chemicals rose overall. Chemical and Engineering News June 24, 1996.

*Capdevielle MC, Scanes CG. 1995a. Effect of dietary acid or aluminum on growth and growth-related hormones in mallard ducklings *(Anas platyrhynchos*). Arch Environ Contam Toxicol 29:462-468.

*Capdevielle MC, Scanes CG. 1995b. Effect of dietary acid or aluminum on growth and growth-related hormones in young chickens. Toxicol Appl Pharmacol 133: 164-171.

*Carabine MD, Maddock JEL. 1976. The growth of sulphuric acid aerosol particles when contacted with water vapour. Atmos Environ 10:735-742.

*Cavender FL, Steinhagen WH, Ulrich CE, et al. 1977. Effects in rats and guinea pigs of short-term exposures to sulfuric acid mist, ozone, and their combination. J Toxicol Environ Health 35:521-533.

*Chancy S, Blomquist W, Muller K et al. 1980. Biochemical changes in humans upon exposure to sulfuric acid aerosol and exercise. Arch Environ Health 35:211-216.

*Chen LC, Schlesinger RB. 1983. Response of the bronchial mucociliary clearance system in rabbits exposed to inhaled sulfite and sulfuric acid aerosols. Toxicol Appl Pharmacol 70:123-131.

*Chen LC, Fang CP, Qu QS, et al. 1993. A novel system for the *in vitro* exposure of pulmonary cells to acid sulfate aerosols. Fundam Appl Toxicol 20: 170-176.

*Chen LC, Fine JM, Qu QS, et al. 1992a. Effects of fine and ultrafine sulfuric acid aerosols in guinea pigs: Alterations in alveolar macrophage function and intracellular pH. Toxicol Appl Pharmacol 113: 109- 117.

*Chen LC, Miller PD, Amdur MO, et al. 1992b. Airway hyperresponsiveness in guinea pigs exposed to acid-coated ultrafine particles. J Toxicol Environ Heal& 35: 165-174.

8. REFERENCES

Chen LC, Miller PD, Lam HF, et al. 199 1. Sulfuric acid-layered ultrafine particles potentiate ozone-induced airway injury. J Toxicol Environ Health 34:337-352.

*Chen LC, Qu Q, Amdur MO, et al. 1995. Alteration of pulmonary macrophage intracellular pH following inbalation exposure to sulfuric acid/ozone mixtures Exp Lung Res 2 1: 113- 128.

*Cifone MA, Myhr B, Eiche A, et al. 1987. Effect of pH shift on the mutant frequency at the thymidine kinase locus in mouse lymphoma L5178Y+/- cells. Mutat Res 189:39-46.

*Cipollaro M, Corsale, G, Esposito A, et al. 1986. Sublethal pH decrease may cause genetic damage to eukaryotic cell: A study on sea urchins and *Salmonella typhimurium.* Teratog Carcinog Mutagen 6:275-287.

*Clark KW, Anderson KR, Linn WS, et al. 1995. Influences of breathing-zone ammonia on human exposures to acid aerosol pollution. J Air Waste Manage Assoc 45:923-925.

*Clewell HJ, III, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. Toxicol IndHealth l:lll-113.

*Cockre11 BY, Busey WM, Cavender FL. 1978. Respiratory tract lesions in guinea pigs exposed to sulfuric acid mist. J Toxicol Environ Health 4:835-844.

*Coggon D, Pannett B, Wield G. 1996. Upper aerodigestive cancer in battery manufacturers and steel workers exposed to mineral acid mists. Occup Environ Med 53:445-449.

*Cohen BS. 1997. Distribution of H+ and trace metals in ultrafine ambient aerosol. http://es.inel.gov:80/ncerqa/grants/air/aircoh/html

Constantin D, Bini A, Meletti E, et al. 1996. Age-related differences in the metabolism of sulphite to sulphate and in the identification of sulphur trioxide radical in human polymorphonuclear leukocytes. Mech Ageing Dev 88:95-109.

*Cookfair, Wende K, Michalek A, et al. 1985. A case-control study of laryngeal cancer among workers exposed to sulfuric acid [Abstract]. Am J Epidemiol 122:S21.

*Costa DL, Amdur MO. 1996. Air pollution. In: Klaassen CD, ed. Casarett and Doull's toxicology: The basic science of poisons, 5th ed. New York: McGraw-Hill, 857-882.

*CRISP. 1996. Computer Retrieval of Information on Science Projects. National Library of Medicine, National Institutes of Health, Bethesda, MD.

*CT DEP. 1998. Hazardous limiting values for hazardous air pollutants. Connecticut Department of Environmental Protection, Bureau of Air Management. 22a-174-29.

*Gulp DJ, Latchney LR, Frampton MW, et al. 1995. Composition of human airway mucins and effects after inhalation of acid aerosols. Am J Physiol269:L358-L370.

*Cyrys J, Gutschmidt K, Brauer M, et al. 1995. Determination of acidic sulfate aerosols in urban atmospheres in Erfurt (F.R.G.) and Sokolov (former C.S.S.R.). Atmos Environ 23:3545-3557.

8. REFERENCES

*Dahl AR, Felicetti SA, Muggenburg BA. 1983. Clearance of sulfuric acid-introduced ^{35}S from the respiratory tracts of rats, guinea pigs and dogs following inhalation or instillation. Fundam Appl Toxicol 3:293-297.

*Demerec M, Bertani G, Flint J. 195 1. A survey of chemicals for mutagenic action on *E. coli.* The American Naturalist 85: 119- 136.

*DHHS. 1994. Seventh annual report on carcinogens. U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, National Institute of Environmental Health Services, Research Triangle Park, NC.

*Dilawari JB, Singh S, Rao PN, et al. 1984. Corrosive acid ingestion in man - a clinical and endoscopic study. Gut 25:183-187.

DOE. 1996. Assessing historical global sulfur emission patterns for the period 1850-1990. A.S.L. and Associates, Helena, MT. Washington, D.C.: Office of Planning and Analysis, U.S. Department of Energy. DE96-014790.

*DOT. 1998. Purpose and use of hazardous materials table. Department of Transportation. Code of Federal Regulations 49 CFR 172.10 1 D

*Dutkiewicz VA, Burkhard EG, Husain L. 1995. Availability of H,O, for oxidation of SO, in clouds in the northeastern United States Atmos Environ 29:3281-3292.

*El-Fawal HAN, Schlesinger RB. 1994. Nonspecific airway hyperresponsiveness induced by inhalation exposure to sulfuric acid aerosol: An *in vitro* assessment. Toxicol Appl Pharmacol 125:70-76.

*El-Fawal HAN, McGovern T, Schlesinger RB. 1995. Nonspecific bronchial responsiveness assessed *in vitro* following acute inhalation exposure to ozone and ozone/sulfuric acid mixtures. Exp Lung Res 21: 129-139.

*El-Sadik Y, Osman HA, El-Gazzar RM. 1972. Exposure to sulfuric acid in manufacture of storage batteries. J Occup Med 14:224-226.

*Ellenhorn MJ, Barceloux DG. 1988. Medical toxicology: Diagnosis and treatment of human poisoning. New York, NY: Elsevier, 924-929.

Endecott BR, Sanders DC, Chaturvedi AK. 1996. Simultaneous gas chromatographic determination of four toxic gases generally present in combustion atmospheres. J Anal Toxicol 20(May/June): 189- 194.

*Englander V, Sjoberg A, Hagmar L, et al. 1988. Mortality and cancer morbidity in workers exposed to sulphur dioxide in a sulphuric acid plant. Int Arch Occup Environ Health 6 1: 157- 162.

*EPA. 1985. The acidic deposition phenomenon and its effects: Critical assessment document. United States Environmental Protection Agency, Office of Acid Deposition, Environmental Monitoring, and Quality Assurance, Washington, DC. EPA/600/8-85/001.

8. REFERENCES

*EPA. 1988. Quality assurance handbook for air pollution measurement systems: Volume III. Stationary sources specific methods. Section 3.7. U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Research Triangle Park NC. EPA/600/4-77/-27b.

*EPA. 1990. Interim methods for development of inhalation reference doses. U.S. Environmental Protection Agency. EPA-600/8-90-066A.

*EPA. 1993. Methods for the determination of inorganic substances in environmental samples. United States Environmental Protection Agency, Office of Research and Development, Washington, DC. EPA/600/8-93/100. Methods 300.0 and 375.2.

*EPA. 1994. Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry. Environmental Criteria and Assessment Office, Office of Health and Environment Assessment, Office of Research and Development, U.S. Environmental Protection Agency, Research Triangle Park, NC. EPA/600/8-90-066F.

*EPA. 1995a. National air pollutant emission trends, 1900-1994. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC. EPA-454/R-95-01 1.

*EPA. 1995b. Methods [1- 141. APPENDIX A. U.S. Environmental Protection Agency. Code of Federal Regulations 40 CFR 60, Test

EPA. 1996a. Demonstration of the environmental and demand-side management benefits of grid-connected photovoltaic power systems. Report to U.S. Environmental Protection Agency, Office of Research and Development, Air Pollution Prevention and Control Division, Research Triangle Park, NC, by Ascension Technology, Inc., Lincoln Center, MA. EPA-600/R-96-1 30.

*EPA 1996b. U.S. Environmental Protection Agency. National air quality and emissions trends report, 1995. Research Triangle Park, NC: Office of Air Quality Planning and Standards, Emissions Monitoring and Analysis Division, Air Quality Trends Analysis Group. EPA 454/R-96-005.

*EPA. 1998a. Table 116.4B - List of hazardous substances by CAS numbers. Environmental Protection Agency. Code of Federal Regulations 40 CFR 116.4.

*EPA. 1998b. Subpart D - Exemptions from the requirement of a tolerance. Environmental Protection Agency. Code of Federal Regulations 40 CFR 180.1001.

*EPA. 1998c. Sulfuric acid; exemption from the requirement of a tolerance. Environmental Protection Agency. Code of Federal Regulations 40 CFR 180.10 19.

*EPA 1998d. U.S. Environmental Protection Agency. Code of Federal Regulations 40 CFR 302.4. Designation of hazardous substances.

*EPA. 1998e. The list of extremely hazardous substances and their threshold planning quantities. Environmental Protection Agency. Code of Federal Regulations 40 CFR 355 (APPENDIX A).

*EPA. 1998f. Toxic chemical release reporting: community right-to-know. Chemicals and chemical categories to which this part applies. U.S. Environmental Protection Agency. Code of Federal Regulations 40 CFR 372.65.

8. REFERENCES

*EPA. 19988. Consumer product safety commission. Hazardous substances and articles; Administration and enforcement regulations. Substances named in the Federal Caustic Poison Act. Code of Federal Regulations 16 CFR 1500.129.

Esmen NA, Marsh GM, Stone RA, et al. 1997. Quantifying individual residential exposure to smelter emissions in four Arizona copper smelter communities: exposure estimation procedures and results. Toxicol Ind Health 13(2/3):247-258.

Farely JM. 1992. Inhaled toxicants and airway hyperresponsiveness. Annu Rev Pharmacol Toxicol 32:67-88.

*FEDRIP. 1996. Federal Research in Progress. National Technical Information Service, Springfield, VA.

*Fine JM, Gordon T, Thompson JE, et al. 1987. The role of titratable acidity in acid aerosol-induced bronchoconstriction. Am Rev Respir Dis 135:826-830.

*Fornan SJ. 1966. Body composition of the infant. Part I: The male reference infant. Falkner F, ed. Human development. Philadelphia, PA: WI3 Saunders, 239-246.

*Fornan SJ, Haschke F, Ziegler EE, Nelson SE. 1982. Body composition of reference children from birth to age 10 years. Am J Clin Nutr 35:1169-l 175.

*Forastiere F, Valesini S, Salimei E, et al. 1987. Respiratory cancer among soap production workers. Stand J Work Environ Health 13:258-269.

*Frampton MW, Morrow PE, Cox C, et al. 1995. Sulfuric acid aerosol followed by ozone exposure in healthy and asthmatic subjects. Environ Res 69:1-14.

*Frampton MW, Voter KZ, Roberts NJ, et al. 1992. Sulfuric acid aerosol exposure in humans assessed by bronchoalveolar lavage. Am Rev Respir Dis 146:626-632.

*FSTRAC. 1990. Summary of state and federal drinking water standards and guidelines. Prepared by chemical communication subcommittee. Federal State Toxicology and Regulatory Alliance Committee.

*Fujimaki H, Katayama N, Wakamori K. 1992. Enhanced histamine release from lung mast cells of guinea pigs exposed to sulfuric acid aerosols. Environ Res 58:117-123.

*Fung CS, Misra PK, Bloxam R, et al. 1991. A numerical experiment on the relative importance of H,O, and 0, in aqueous conversion of SO_2 to SO_4^{2-}. Atmos Environ 25A:41l-423.

*Gamble J, Jones W, Hancock J. 1984a. Epidemiological-environmental study of lead-acid battery workers: II. Acute effects of sulfuric acid on the respiratory system. Environ Res 35: 1l-29.

*Gamble J, Jones W, Hancock J, et al. 1984b. Epidemiological-environmental study of lead-acid battery workers: III. Chronic effects of sulfuric acid on the respiratory system and teeth. Environ Res 35:30-52.

*Gearhart JM, Schlesinger RB. 1986. Sulfuric acid-induced airway hyperresponsiveness. Fundam Appl Toxicol 7:68 l-689.

8. REFERENCES

Gearhart JM, Schlesinger RB. 1989. Sulfuric acid-induced changes in the physiology and structure of the tracheobronchial airways. Environ Health Perspect 79 : 127- 137.

Glatt H. Bioactivation of mutagens via sulfation. FASEB Journal 11:3 14-32 1.

*Goldman A, Hill WT. 1953. Chronic bronchopulmonary disease due to inhalation of sulfuric acid fumes. Arch Ind Hyg Occup Med 8:205-211.

Gong II Jr, Linn MA, Shamoo DA, et al. 1996. Effect of inhaled salmeterol on sulfur dioxide-induced bronchoconstriction in asthmatic subjects. Chest 1 10(5): 1229-1235.

*Gosselin RE, Smith RP, Hodge HC. 1984. Clinical toxicology of commercial products, 5th ed. Baltimore, MD: Williams & Wilkins, III-8-II112.

*Grant WM. 1974. Sulfuric acid. In: Toxicology of the eye. 2nd ed. Springfield, IL: Charles C. Thomas. 959-960.

*Griffiths R, ed. 1996. Sulphur trioxide oleum and sulphuric acid mist. Rugby, Warwickshire, UK: Institution of Chemical Engineers.

*Grose EC, Richards JH, Illing JW, et al. 1982. Pulmonary host defense responses to inhalation of sulfuric acid and ozone. J Toxicol Environ Health 10:351-362.

*Grzesiak P, Schroeder G, Hopke W. 1997. Degradation of the natural environment resulting from the presence of sulphur compounds in the atmosphere. Polish Journal of Environmental Studies 6(4):45-48.

Gtimti# S, Akbq H, Alicigtizel Y, et al. 1998. Effects of sulfur dioxide inhalation on antioxidant enzyme activities in rat erythrocytes. Ind Health 36:70-73.

Gunnison AF, Benton AW. 197 1. Sulfur dioxide: Sulfite interaction with mammalian serum and plasma. Arch Environ Health 22:381-388.

*Guzelian PS, Henry CJ, Olin SS. 1992. Similarities and differences between children and adults: Implications for risk assessment. Washington, DC: International Life Sciences Institute Press.

*Haddad LM, Winchester JF. 1990. Clinical management of poisoning and drug overdose, 2nd ed. Philadelphia, PA: W.B. Saunders Company, 379,1065-1069.

*Hanley QS, Koenig JQ, Larson TV, et al. 1992. Response of young asthmatic patients to inhaled sulfuric acid. Am Rev Respir Dis 145:326-331.

*HazDat. 1998. Hazardous Substance Database. Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, GA.

*Hensyl WR ed. 1990. Stedman’s medical dictionary, 25th ed. Baltimore, MD: Williams & Wilkins, 1777.

*Hillman H. 1989. Kitchen science: A guide to knowing the hows and whys for fun and success in the kitchen Boston, MA: Houghton Mifflin Company, 137-l 38.

8. REFERENCES

*Hoek G, Mennen MG, Allen GA, et al. 1996. Concentrations of acidic air pollutants in The Netherlands. Atmos Environ 30:3141-3150.

*Hofmann DJ. 1990. Increase in the stratospheric background sulfuric acid aerosol mass in the past 10 years. Science 248996-1000.

*Holekamp TLR, Becker B. 1977. Ocular injuries from automobile batteries. Transactions-American Academy of Ophthalmology and Otolaryngology 83:805-810.

*Holma B. 1989. Effects of inhaled acids on airway mucus and its consequences for health. Environ Health Perspect 79:109-113.

*Holma B. 1985. Influence of buffer capacity and pH-dependent rheological properties of respiratory mucus on health effects due to acidic pollution. Sci Total Environ 41: 101-123.

*Horvath SM, Folinsbee LJ, Bedi JF. 1987. Combined effect of ozone and sulfuric acid on pulmonary function of man Am Ind Hyg Assoc J 48:94-98.

*Houghton DJ, White PS. 1994. The carcinogenic risk of exposure to sulphuric acid fumes from lead-acid batteries. J Laryngol Otol 108:881-882.

*HSDB. 1998. Hazardous Substances Data Bank National Library of Medicine, Toxicology Information Program, Bethesda, MD. March 1998.

*HSEES. 1997. Hazardous substances emergency events surveillance. U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, Atlanta, Georgia.

Huang PF, Turpin B. 1996. Reduction of sampling and analytical errors for electron microscopic analysis of atmospheric aerosols. Atmospheric Environment 30(24):4137-4148.

*IARC. 1992. Occupational exposures to mists and vapours from sulfuric acid and other strong inorganic acids. IARC Monogr Eva1 Carcinogen Risk Chem Hum 5441-130.

*Ichinose T, Sagai M. 1992. Combined exposure to nitrogen dioxide, ozone and sulfuric acid-aerosol and lung tumor formation in rats. Toxicology 74: 173- 184.

*ID DHW. 1998. Pollution control rules for control of air pollution in Idaho. Idaho Department of Health and Welfare, Division of Environmental Quality. Title 01, Chapter 01.585.

*IRIS. 1996. Integrated Risk Information Systems. IJ.S. Environmental Protection Agency. Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH. December 1996.

Iwase, N, Sasaski T, Shimura S, et al. 1997. Signature current of SO_2-induced bronchitis in rabbit. J Clin Invest 99(7):1651-1661.

*Jacobs GA. 1992. OECD eye irritation tests on two strong acids. J Am Co11 Toxicol 11:734.

8. REFERENCES

*Jakab GJ, Clarke RW, Hemenway DR, et al. 1996. Inhalation of acid coated carbon black particles impairs alveolar macrophage phagocytosis. Toxicol Lett 88:243-248.

*Johanson CE. 1980. Permeability and vascularity of the developing brain: cerebellum vs cerebral cortex. Brain Res 190:3-16.

*Jones W, Gamble J. 1984. Epidemiological - environmental study of lead-acid battery workers I. Environmental study of five lead-acid battery plants. Environ Res 35:1-10.

*Kate N, Akimoto H. 1992. Anthropogenic emissions of SO_2 and NO in Asia: Emission inventories. Atmos Environ 268.2997-3017.

*Kellogg WW, Cadle RD, Allen ER, et al. 1972. The sulfur cycle. Science 175:587-596.
Kerminen V-M, Wexler AS 1996. The occurrence of sulfuric acid-water nucleation in plumes: Urban environment. Tellus 45B:65-82.

Khwajy HA, Brudnoy S, Husain L. 1995. Chemical characterization of three summer cloud episodes at Whiteface Mountain. Chemosphere 3 1:3357-3381.

Kienast K, Riechelmann H, Knorst M, et al. 1996. Combined exposures of human ciliated cells to different concentrations of sulfur dioxide and nitrogen dioxide. Eur J Med Res 1:533-536.

*Kim JC, Allen ER. 1997. Effects of filter pack sampling conditions on observed ambient concentration of dry acid deposition species. Chemosphere. 34(3): 587-610.

*Kimmel TA, Chen LC, Bosland MC, et al. 1997. Influence of acid aerosol droplet size on structural changes in the rat lung caused by acute exposure to sulfuric acid and ozone. Toxicol Appl Pharmacol 144:348-355.

*Kitagawa T. 1984. Cause analysis of the Yokkaichi asthma episode in Japan. JAPCA 34:743-746.

*Kleinman LI, Daum PH. 1991. Oxidant limitation to the formation of H_2SO_2 near a SO_2 source region. Atmos Environ 25A:2023-2028.

*Kleinman MT, Bailey RM, Chang Y-TC, et al. 1981. Exposures of human volunteers to a controlled atmospheric mixture of ozone, sulfur dioxide and sulfuric acid. Am Ind Hyg Assoc J 42:6l-69.

*Knapp KT, Pierson WR, Dasgupta PK, et al. 1987. Determination of gaseous sulfuric acid and sulfur dioxide in stack gases. In Lodge JP, ed. Methods of air sampling and analysis (Method 711). 3rd ed. Chelsea, MI: Lewis Publishers, Inc. 523-528.

*Knapp MJ, Bunn WB, Stave GM. 1991. Adult respiratory distress syndrome from sulfuric acid fume inhalation. South Med J 84:1031-1033.

Knorst MM, Kienast K, Mtiller-Quernheim J, et al. 1996. Effect of sulfur dioxide on cytokine production of human alveolar macrophages *in vitro.* Arch Environ Health 5l (2):150-156.

8. REFERENCES

*Kobayashi T, Shinozaki Y. 1993. Effects of sulfuric acid-aerosol on airway responsiveness in guinea pigs: Concentration and time dependency. J Toxicol Environ Health 39:26 l-272.

Koenig JQ. Covert DS, Pierson WE. 1989. Effects of inhalation of acidic compounds on pulmonary function in allergic adolescent subjects. Environ Health Perspect 79: 173-178.

*Koenig JQ, Covert DS, Larson TV, et al. 1992. The effect of duration on sulfuric acid-induced pulmonary function changes in asthmatic adolescent subjects: A dose-response study. Toxicol Ind Health 8:285-296.

*Koenig JQ, Dumler K, Rebolledo V, et al. 1993. Respiratory effects of inhaled sulfuric acid on senior asthmatics and nonasthmatics I Arch Environ Health 48: 17 1 - 175.

*Koenig JQ, Morgan MS, Horike M, et al. 1985. The effects of sulfur oxides on nasal and lung function in adolescents with extrinsic asthma. J Allergy Clin Immunol76:8 13-8 18.

*Komori M, Nishio K, Kitada M, et al. 1990. Fetus-specific expression of a form of cytochrome P-450 in human liver. Biochemistry 29:4430-4433.

*Koutrakis P, Fasano AM, Slater JL, et al. 1989, Design of a personal annular denuder sampler to measure atmospheric aerosols and gases. Atmos Environ 23~2767-2773.

*Koutrakis P, Wolfson JM, Slater JL, et al. 1988. Evaluation of an annular denuder/filter pack system to collect acidic aerosols and gases. Environmental Science and Technology 22:1463-1468.

*Kremer AM, Pal TM, Boleij JSM, et al. 1994. Airway hyperresponsiveness, prevalence of chronic respiratory symptoms, and lung function in workers exposed to irritants. Occup Environ Med 5 1:3-l 3.

*Krishnan K, Andersen ME. 1994. Physiologically-based pharmacokinetic modeling in toxicology. In: Hayes W, ed. Principles and methods of toxicology. 3rd edition, New York, NY: Raven Press, Ltd.

*Krishnan K, Andersen ME, Clewell HJ, lIl, et al. 1994. Physiologically-based pharmacokinetic modeling of chemical mixtures. In: Yang RSA, ed. Toxicology of chemical mixtures, New York, NY: Academic Press.

*Kulle TJ, Kerr DH, Farrell BP, et al. 1982. Pulmonary function and bronchial reactivity in human subjects with exposure to ozone and respirable sulfuric acid aerosol. Am Rev Respir Dis 126:996-1000.

Kulmala M, Kerminen V-M, Laaksonen A. 1995. Simulations on the effect of sulphuric acid formation on atmospheric aerosol concentrations. Atmos Environ 29:377-382.

Langley-Evans SC, Phillips GJ, Jackson AA. 1996. Sulphur dioxide: A potent glutathione depleting agent. Comp Biochem Physiol 114C(2):89-98.

*Last JA. 199 1. Global atmospheric change: Potential health effects of acid aerosol and oxidant gas mixture. Environ Health Perspect 96: 15 1- 157.

Last JA, Pinkerton KE. 1997. Chronic exposure of rats to ozone and sulfuric acid aerosol: Biochemical and structural responses. Toxicology 116: 133-146.

8. REFERENCES

*Last JA, Warren DL. 1987. Synergistic interaction between nitrogen dioxide and respirable aerosols of sulfuric acid or sodium chloride on rat lungs. Toxicol Appl Pharmacol 90:34-42.

*Laube BL, Bowes SM III, Links JM, et al. 1993. Acute exposure to acid fog effects on mucociliary clearance. Am Rev Respir Dis 147:1105-l 11.

*Leaderer BP, Boone PM, Hammond SK. 1990. Total particle, sulfate, and acidic aerosol emissions from kerosene space heaters. Environmental Science and Technology 24:908-912.

*LeBoeuf RA, Kerckaert GA. 1986. The induction of transformed-like morphology and enhanced growth in Syrian hamster embryo cells grown at acidic pH. Carcinogenesis 7: 143 l-1440.

*Lee MM, Schurch S, Roth SH, et al. 1995. Effects of acid aerosol exposure on the surface properties of airway mucus Exp Lung Res 21:835-851.

*Leeder JS, Kearns, GL. 1997. Pharmacogenetics in pediatrics: Implications for practice. Ped Clin North America 44:55-77.

*Leikauf GD, Spektor DM, Albert RE, et al. 1984. Dose-dependent effects of submicrometer sulfuric acid aerosol on particle clearance from ciliated human lung airways. Am Ind Hyg Assoc J 45:285-292.

*Leikauf G, Yeates DB, Wales KA, et al. 1981. Effects of sulfuric acid aerosol on respiratory mechanics and mucociliary particle clearance in healthy nonsmoking adults. Am Ind Hyg Assoc J 42:273-282.

*Lentner C , ed. 198 1. Geigy Scientific Tables. Vol 1: Units of measurement, body fluids, composition of the body, nutrition. West Caldwell, NJ: Medical Education Division, Ciba-Geigy Corporation, 57-62.

*Leung H. 1993. Physiologically-based pharmacokinetic modeling. In: Ballantyne B, Marrs T, Turner P, eds. General and applied toxicology. Vol. I. New York, NY: Stockton Press, 153-164.

Lewalter J. 1996. N-alkylvaline levels in globin as a new type of biomarker in risk assessment of alkylating agents. Arch Occup Environ Health 68:519-530

*Lewis TR, Campbell KI, Vaughan TR. 1969. Effects on canine pulmonary function. Via induced NO, impairment, particulate interaction, and subsequent SO_2. Arch Environ Health 18:596-601.

*Lide DR, Frederikse HPR, eds. 1993. CRC handbook of chemistry and physics. 74th ed. Boca Raton, FL; CRC Press.

*Linn WS, Anderson KR, Shamoo DA, et al. 1995. Controlled exposures of young asthmatics to mixed oxidant gases and acid aerosol. Am J Respir Crit Care Med 152:885-891.

*Linn WS, Avol EL, Shamoo DA, et al. 1986. Respiratory responses of exercising asthmatic volunteers exposed to sulfuric acid aerosol. J Air Poll Control Assoc 36: 1323-1328.

Linn WS, Gong HG Jr., Shamoo DA, et al. 1997. Chamber exposures of children to mixed ozone, sufur dioxide, and sulfuric acid. Arch Environ Health 52(3):179-187.

8. REFERENCES

*Linn WS, Shamoo DA, Anderson KR, et al. 1994. Effects of prolonged, repeated exposure to ozone, sulfuric acid, and their combination in healthy and asthmatic volunteers. Am J Resp Crit Care Med 150:43 l-440.

*Lioy PJ, Waldman JM. 1989. Acidic sulfate aerosols: Characterization and exposure. Environ Health Perspect 79: 15-34.

*Lipfert FW, Morris SC, Wyzga RE. 1989. Acid aerosols: The next criteria air pollutant? Environmental Science and Technology, 23: 13 16-l 322.

Lippmann M. 1985. Airborne acidity: Estimates of exposure and human health effects. Environ Health Perspect 63:63-70.

*Lippmann M, Gearhart JM, Schlesinger RB. 1987. Basis for a particle size-selective TLV for sulfuric acid aerosols. Appl Ind Hyg 2:188-199.

*Lippmann M, Schlesinger RB, Leikauf G, et al. 1982. Effects of sulphuric acid aerosols on respiratory tract airways. Ann Occup Hyg 26:677-690.

*10 DEQ. 1998. Comprehensive toxic air pollution emission control program. Louisiana Department of Environmental Quality, Air Quality Division Chapter 51-A-5112.

Loomis DP, Borja-Aburto VH, Bangdiwala SI, et al. 1996. Ozone exposure and daily mortality in Mexico City: a time series analysis. Res Rep Health Eff Inst (ISS 75):1-451

Lovati MR, Manzoni C, Daldossi M, et al 1996. Effects of sub-chronic exposure to SO2 on lipid and carbohydrate metabolism in rats. Arch Toxicol 70164-173.

Lui L-J, Burton R, Wilson WE, et al. 1996. Comparison of acid aerosol acidity in urban and semi-rural environments. Atmos Environ 30:1237-1245.

Maddalone RF. 1984. Guidelines for combustion source sulphuric acid emission measurements. Indian J Environmental Protection 4:93-99.

*Malcolm D, Paul E. 1961. Erosion of the teeth due to sulphuric acid in the battery industry. Brit J Ind Med 18:63-69.

*Mannix RC, Phalen RF, Nguyen TN. 199 1. Effects of sulfuric acid on ferret respiratory tract clearance. Inhalation Toxicology 3 :277-291.

*Martonen TB, Pate1 M. 198 1. Modeling the dose distribution of H_2SO_4 aerosols in the human tracheobronchial tree. Am Ind Hyg Assoc J 42:453-460.

*Martonen TB, Zhang Z. 1993. Deposition of sulfate acid aerosols in the developing human lung. Inhalation Toxicology 5:165- 187.

*Mautz W, Finlayson-Pitts BJ, Messer K, et al. 1991. Effects of ozone combined with components of acid fogs on breathing pattern, metabolic rate, pulmonary surfactant composition, and lung injury in rats. Inhalation Toxicology 3:1-25.

8. REFERENCES

Moolgavkar SH, Luebeck EG, Anderson EL. 1997. Air pollution and hospital admissions for respiratory causes in Minneapolis-St. Paul and Birmingham. Epidemiology 8(4):364-370.

*Morita T, Watanabe Y, Takeda K, et al. 1989. Effects of pH in the *in vitro* chromosomal aberration test. Mutat Res 225:55-60.

*Morsehi PL, France-Morselli R, Bossi L. 1980. Clinical pharmacokinetics in newborns and infants. Clin Pharmacokin 5:485-527.

*Murphy JC, Osterberg RE, Seabaugh VM, et al. 1982. Ocular irritancy responses to various pHs of acids and bases with and without irrigation. Toxicology 231: 28l-291.

*Murray PJ, Schwetz BA, Nitschke KD, et al. 1979. Embryotoxicity of inhaled sulfuric acid aerosol in mice and rabbits" J Environ Sci Health C13:251-266.

*NAS/NRC. 1989. Biologic markers in reproductive toxicology. National Academy of Sciences/National Research Council. Washington, DC: National Academy Press, 15-35.

*NATICH. 1996. National Air Toxics Information Clearinghouse Database. Environmental Protection Agency, Research Triangle Park, NC. November 1996.

*NC DEHNR. 1998. Toxic air pollutant guidelines. North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management. Title 15A, r.2D. 1100.

*Ness LM, Dockery DW, Koutrakis P, et al. 1995. The association of ambient air pollution with twice daily peak expiratory flow measurements in children. Am J Epidemiol 141:111 - 122.

*Newhouse MT, Dolovich M, Obminski G, et al. 1978. Effect of TLV levels of SO_2, and H_2SO_4 on bronchial clearance in exercising man. Arch Environ Health 33:24-32.

*NIOSH. 1977. National Institute of Occupational Health and Safety. NIOSH manual of analytical methods, volume 1, method 187.

*NIOSH. 1979. National Institute of Occupational Health and Safety. NIOSH manual of analytical methods, volume 7, method 26 1.

*NIOSH. 1994a. Manual of Analytical Methods. 4th ed. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. Method 7903.

*NIOSH. 1994b. Pocket guide to chemical hazards. Cincinnati, OH: National Institute for Occupational Safety and Health. 290-291.

*NIOSH. 1997. Pocket guide to chemical hazards. Cincinnati, OH: National Institute for Occupational Safety and Health. 290-291.

*Nixon GA, Tyson, CA, Wertz WC. 1975. Interspecies comparisons of skin irritancy. Toxicol Appl Pharmacol3 1:48 l-490.

8. REFERENCES

*NOES 1990. National Occupational Exposure Survey (1981-1983). U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Cincinnati, OH. July 1, 1990.

Nowak D, Jorres R, Berger J, et al. 1997. Airway responsiveness to sulfur dioxide in an adult population sample. Am J Respir Crit CareMed 156:1151-1156.

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

*NTDB. 1996. National Trade Data Bank. Washington, DC: U.S. Department of Commerce, Economics and Statistics Administration (CD-ROM).

Oehme FW, Coppock RW, Mostrom MS, et al. 1996. A review of the toxicology of air pollutants: Toxicology of chemical mixtures. Vet Human Toxicol 38(5):371-377.

*OSHA. 1998. Occupational Safety and Health Administration. Code of Federal Regulations 29 CFR 1910.1000.

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

*Owen GM, Brozek J. 1966. Influence of age, sex, and nutrition on body composition during childhood and adolescence. In: Falkner, ed. Human development. Philadelphia, PA: Saunders, 222-238.

*Ozkaynak H, Xue J, Zhou H, Spengler JD, et al. 1996. Intercommunity differences in acid aerosol (H^+)/sulfate (SO_4^{2-}) ratios. J Expo Anal Environ Epidemiol 6:35-55.

*Pattle RE, Burgess F, Cullumbine H. 1956. The effects of a cold environment and of ammonia on the toxicity of sulphuric acid mist to guinea pigs. J Pathio Bacterial 72:219-232.

Peters A, Dockery DW, Heinrich J, et al. 1997. Medication use modifies the health effects of particulate sulfate air pollution in children with asthma. Environ Health Perspect 105(4): 430-435.

Peters A, Dijring A, Wichmann HE, et al. 1997. Increased plasma viscosity during an air pollution episode: A link to mortality? Lancet 349:1582-1587.

Peters A, Goldstein IF, Beyer U, et al. 1996. Acute health effects of exposure to high levels of air pollution in Eastern Europe. Am J Epidemiol 144(6): 570-58 1.

*Pienaar JJ, Helas G. 1996. The kinetics of chemical processes affecting acidity in the atmosphere. South African Journal of Science 92: 128-132.

*Pierson WR, Brachaczek WW, Gorse RA, et al. 1987a. Acid rain and atmospheric chemistry at Allegheny Mountain. Environmental Science and Technology 21:679-691.

Pierson WR, Dasgupta PK, Adams DF, et al. 1987b. Determination of airborne sulfates (Method 824). In Lodge JP, ed. Methods of air sampling and analysis. 3rd ed. Chelsea, MI: Lewis Publishers, Inc. 639-644.

8. REFERENCES

Piirila PL, Nordman H, Korhonen OS, et al. 1996. A thirteen-year follow-up of respiratory effects of acute exposure to sulfur dioxide. Stand J Work Environ Health 22: 19 1-l 96.

Ponce de Leon A, Anderson HR, Bland JM, et al. 1996. Effects of air pollution on daily hospital admissions for respiratory disease in London between 1987-88 and 1991-92. J Epidemiol Community Health 33(Suppl l):S63-S70.

Ponka A, Virtanen M. 1996. Asthma and ambient air pollution in Helsinki. J Epidemiol Cornm Health SO(Supp1 l):S59-S62.

*Qu QS, Chen LC, Gordon T, et al. 1993. Alteration of pulmonary macrophage intracellular pH regulation by sulfuric acid aerosol exposures. Toxicol Appl Pharmacol 12 1: 13 8- 143.

Raabe OG, Wilson DW, Al-Bayati MA, et al. 1994. Biological effects of inhaled pollutant aerosols. Ann Occup Hyg 38(suppl 1):323-330.

Rusznak C, Devalia JL, Davies RJ. 1996. Airway response of asthmatic subjects to inhaled allergen after exposure to pollutants. Thorax 51: 1105-l 108.

Ruth JH. 1986. Odor thresholds and irritation levels of several chemicals substances: A review. Am Ind Hyg Assoc J 47:A142-A151.

*Sathiakumar N, Delzell E, Amoateng-Adjepong Y, et al. 1997. Epidemiologic evidence on the relationship between mists containing sulfuric acid and respiratory tract cancer. Crit Rev Toxicol 27(3):233-25 1.

*SC DHEC. 1998. Air pollution control standards, Toxic air pollutants. South Carolina Department of Health and Environmental Control, Bureau of Air Quality. 62.5, Standard No. 8.

*Schlesinger RB. 1987. Functional assessment of rabbit alveolar macrophages following intermittent inhalation exposures to sulfuric acid mist. Fundam Appl Toxicol 8:328-334.

Schlesinger RB. 1989. Factors affecting the response of lung clearance systems to acid aerosols: Role of exposure concentration, exposure time, and relative acidity. Environ Health Perspect 79: 121-126.

*Schlesinger RB. 1990a. Exposure-response pattern for sulfuric acid-induced effects on particle clearance from the respiratory region of rabbit lungs. Inhalation Toxicology 2:21-27.

Schlesinger RB. 1990b. The interaction of inhaled toxicants with respiratory tract clearance mechanisms. Crit Rev Toxicol 20:257-286.

*Schlesinger RB, Gearhart JM. 1986. Early alveolar clearance in rabbits intermittently exposed to sulfuric acid mist. J Toxicol Environ Health 17:213-220.

*Schlesinger RB, Chen L-C, Drisoll KE. 1984. Exposure-response relationship of bronchial mucociliary clearance in rabbits following acute inhalations of sulfuric acid mist. Toxicol Lett 22:249-254.

*Schlesinger RB, Chen L-C, Finkelstein I, et al. 1990a. Comparative potency of inhaled acidic sulfates: Speciation and the role of the hydrogen ion. Environ Res 52~210-224.

8. REFERENCES

*Schlesinger RB, Gorczynski JE, Dennison J, et al. 1992a. Long-term intermittent exposure to sulfuric acid aerosol, ozone, and their combination: Alterations in tracheobronchial mucociliary clearance and epithelial secretory cells. Exp Lung Res 18:505-534.

*Schlesinger RB, Gunnison AF, Zelikoff JT. 1990b. Modulation of pulmonary eicosanoid metabolism following exposure to sulfuric acid. Fundam Appl Toxicol 15: 15 l- 162.

*Schlesinger RB, Halpern M, Albert RE, et al. 1979. Effect of chronic inhalation of sulfuric acid mist upon mucociliary clearance from the lungs of donkeys. J Environ Path01 Toxicol 2: 135 1-l 367.

*Schlesinger RB, Zelikoff JT, Chen LC, et al. 1992b. Assessment of toxicologic interactions resulting from acute inhalation exposure to sulfuric acid and ozone mixtures. Toxicol Appl Pharmacol 115:183-190.

*Schultz G, Henkind P, Gross EM. 1968. Acid burns of the eye. Am J Ophthalmol66:654-657.
Schwela D. 1996. Exposure to environmental chemicals relevant for respiratory hypersensitivity: global aspects Toxicol Lett 86:131-142.

Seaton A. 1996. Particles in the air: the enigma of urban air pollution. J R Sot Med 89:604-607.

*Sekizawa J, Yasuhara K, Suyama Y, et al. 1994. A simple method for screening assessment of skin and eye irritation. J Toxicol Sci 19:25-35.

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

*Shi X. 1994. Generation of SO;- and OH radicals iu SO,‘- reactions with inorganic environmental pollutants and its implications to SO,‘- toxicity. J Inorg Biochem 56:155-165.

*Shimada T, Ingalls TH. 1975. Chromosome mutations and pH disturbances. Arch Environ Health 30:196-200.

*SimRE, Pattle RE. 1957. Effect of possible smog irritants on human subjects. JAMA 165:1908-1913.

*Simon PK, Dasgupta PK. 1995. Continuous automated measurement of the soluble fraction of atmospheric particulate matter. Anal Chem 67:7 l-78.

*Smyth HF Jr, Carpenter CP, Weil CS, et al. 1969. Range-finding toxicity data: List VII. Am Ind Hyg Assoc J 30:470-476.

*Soskolne CL. 1982. Upper respiratory cancer among refinery and chemical plant workers: A case-control study in Baton Rouge, Louisiana [dissertation]. Philadelphia: University of Pennsylvania. (unpublished).

*Soskolne CL, Jhangri GS, Siemiatycki J, et al. 1992. Occupational exposure to sulfuric acid in southern Ontario, Canada, in association with laryngeal cancer. Stand J Work Environ Health 18:225-234.

*Soskolne CL, Pagan0 G, Cipollaro M, et al. 1989. Epidemiologic and toxicologic evidence for chronic health effects and the underlying biologic mechanisms involved in sub-lethal exposures to acidic pollutants. Arch Environ Health 44: 180-l 9 1.

8. REFERENCES

*Soskolne CL, Zeighami EA, Hams NM, et al. 1984. Laryngeal cancer and occupational exposure to sulfuric acid. Am J Epidemiol 120:358-369.

Soyseth V, Kongerud J, Boe J. 1996. Allergen sensitization and exposure to irritants in infancy. Allergy 51:719-723.

Speizer FE. 1989. Studies of acid aerosols in six cities and in a new multi-city investigation: Design issues. Environ Health Perspect 79:61-67.

*Spektor DM, Yen BM, Lippmann M. 1989. Effect of concentration and cumulative exposure of inhaled sulfuric acid on tracheobronchial particle clearance in healthy humans. Environ Health Perspect 79: 167- 172.

*Spengler JD, Braurer M, Koutrakis P. 1990. Acid air and health. Environmental Science and Technology 24:946-956.

*Spengler JD, Keeler, GJ, Koutrakis P, et al. 1989. Exposures to acidic aerosols. Environ Health Perspect 79:43-51.

*Spengler, JD, Koutrakis P, Dockery DW, et al. 1996. Health effects of acid aerosols on North American children: Air pollution exposures. Environ Health Perspect 104(5):492-499.

*Stacy RW, Seal E Jr, House DE, et al. 1983. A survey of effects of gaseous and aerosol pollutants on pulmonary function of normal males. Arch Environ Health 3 8: 104- 115.

*Steenland K, Beaumont J. 1989. Further follow-up and adjustment for smoking in a study of lung cancer and acid mists. Am J Ind Med 16:347-354.

*Steenland K, Schnorr T, Beaumont J, et al. 1988. Incidence of laryngeal cancer and exposure to acid mists. Br J Ind Med 45:766-776.

*Stengel PW, Bendele AM, Cockerham SL, et al. 1993. Sulfuric acid induces hyperresponsiveness to substance P in the guinea pig. Agents Actions 39(special conference issue):C128-C131.

*Stucki G, Hanselmann KW, Hurzeler RA. 1993. Biological sulfuric acid transformation: Reactor design and process optimization. Biotechnol Bioeng 41:303-3 15.

*Stueven HA, Coogan P, Valley V. 1993. A hazardous material episode: Sulfur trioxide. Vet Hum Toxicol 35:37-38.

*Stutz DR, Ulin S. 1992. Hazardous materials injuries. Beltsville, MD: Bradford Communications Corporation, 176-177,372-373.

Sugiura Y, Ohashi Y, Nakai Y. 1997. Improvement of mucosal pathology of the sinuses after exposure to sulfur dioxide by nebulization of s-carboxymethylcysteine. Acta Otolaryngol (Stockh) Suppl531:10-16.

*Sub HH, Koutrakis P, Spengler JD. 1993. Validation of personal exposure models for sulfate and aerosol strong acidity. J Air Waste Manage Assoc 43:845-850.

8. REFERENCES

*Sub HH, Spengler JD, Koutrakis P. 1992. Personal exposures to acid aerosols and ammonia. Environmental Science and Technology 26:2507-25 17.

Sunyer J, Castellsague J, Saez M, et al. 1996. Air pollution and mortality in Barcelona. J Epidemiol Comm Health SO(Supp1 l):S76-S80.

*Takeuchi TL, Suzuki I. 1994. Effect of pH on sulfite oxidation by *Thiobacillus thiooxiduns* cells with sulfurous acid or sulfur dioxide as a possible substrate. Journal of Bacterial 176:9 13-9 16.

*Thomas MD, Hendricks RH, Gunn FD, et al. 1958. Prolonged exposure of guinea pigs to sulfuric acid aerosol. AMA Archives of Industrial Hygiene and Occupational Medicine 17:70-80.

Thomas RL, Dharmarajan V, Lundquist GL, et al. 1976. Measurement of sulfuric acid aerosol, sulfur trioxide, and the total sulfate content of the ambient air. Anal Chem 48:339-642.

*Thurston GD, Ito K, Lippmann M, et al. 1989. Reexamination of London, England, mortality in relation to exposure to acidic aerosols during 1963-1972 winters. Environ Health Perspect 79:73-82.

*Treon JF, Dutra FR, Cappel J, et al. 1950. Toxicity of sulfuric acid mist. AMA Archives of Industrial Hygiene and Occupational Medicine 2:7 16-734.

*TRI94. 1996. Toxic Chemical Release Inventory. National Library of Medicine, National Toxicology Program, Bethesda, MD.

*Tuominen M. 199 1 e Occurrence of periodontal pockets and oral soft tissue lesions in relation to sulfuric acid fumes in the working environment. Acta Gdontol Stand 49:26 l-266.

Utell MJ. 1985. Effects of inhaled acid aerosols on lung mechanics: an analysis of human exposure studies. Environ Health Perspect 63:39-44.

*Utell MJ, Frampton MW. 1992. Sulfur dioxide and sulfuric acid aerosols. In: Rom WN, ed. Environmental and occupational medicine, 2nd ed., Boston, MA: Little Brown and Company, 519-527.

*Utell MJ, Mariglio JA, Morrow PE, et al. 1989. Effects of inhaled acid aerosols on respiratory function: The role of endogenous ammonia. J Aerosol Med 2: 14 1 - 147.

*Utell MJ, Morrow PE, Hyde RW. 1984. Airway reactivity to sulfate and sulfuric acid aerosols in normal and asthmatic subjects. J Air Pollut Control Assoc 34:931-935.

*Utell MJ, Morrow PE, Speers DM, et al. 1983. Airway responses to sulfate and sulfuric acid aerosols in asthmatics. Am Rev Respir Dis 128:444-450.

*Vander AJ, Sherman JH, Luciano DS. 1975. Energy and cellular metabolism. In: Human physiology: The mechanisms of body function. New York, NY: McGraw Hill, Inc., 86-88.

Verhoeff AP, Hoek G, Schwartz J, et al. 1995. Air pollution and daily mortality in Amsterdam. Epidemiology 7(3):225-230.

8. REFERENCES

*Vemot EH, MacEwen JD, Haun CC, et al. 1977. Acute toxicity and skin corrosion data for some organic and inorganic compounds and aqueous solutions. Toxicol Appl Phamacol 42:417-423.

*Vieira I, Sonnier M, Cresteil T. 1996. Developmental expression of CYP2El in the human liver: Hypermethylation control of gene expression during the neonatal period. Eur J Biochem 238:476-483.

ViSiiovsky P, VoprSalova M, Fendrick Z, et al. 1996. Mechanisms of action of some air pollutants on the airways Cent Eur J Public Health 4(Suppl):15-16.

Vollmuth TA, Schlesinger RB. 1984. Measurement of respiratory tract ammonia in the rabbit and implications to sulfuric acid inhalation studies. Fund Appl Toxicol 4:455-464.

Von Burg R. 1995. Toxicology update. J AppP Toxicol 16(4):365-37 1.

*WA DE. 1998 Toxic air pollutants and acceptable source impact levels. Washington Department of Ecology. WAC 173-460- 160.

*Wailer RE. 1963. Acid droplets in town air. Int J Air Wat Poll 7:773-338.

Wang AL, Blackford TL, Lee LY. 1996. Vagal bronchopulmonary C-fibers and acute ventilatory response to inhaled irritants. Respir Physiol 104:231-239.

*Warren DE, Last JA. 1987. Synergistic interaction of ozone and respirable aerosols on rat lungs: III. Ozone and sulfuric acid aerosol. Toxicol Appl Pharmacol 88:203-216.

*West JR, Smith HW, Chasis H. 1948. Glomerular filtration rate, effective renal blood flow, and maximal tubular excretory capacity in infancy. J Ped 32a: 10-l 8.

*WHO. 1979. Environmental health criteria 8: Sulfur oxides and suspended particulate matter. World Health Organization. Geneva, Switzerland.

*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.

Wiethlisbach V, Pope III CA, Ackermann-Liebrich IJ. 1996. Air pollution and daily mortality in three Swiss urban areas. Soz Praventivmed 4 1: 107- 115.

*Williams MK. 1970. Sickness absence and ventilatory capacity of workers exposed to sulphuric acid mist. Br J Ind Med 27:61-66.

*Witschi HR, Last JA. 1996. Toxic responses of the respiratory system. In: Klaassen CD, ed. Casarett and Doull's toxicology : The basic science of poisons, 5th ed. New York: McGraw-Hill, 443-462.

*Wolff RK, Silbaugh SA, Brownstein DG, et al. 1979. Toxicity of 0.4- and 0.8~µm sulfuric acid aerosols in the guinea pig. J Toxicol Environ Health 5: 1037- 1047.

*Wyzga RE, Folinsbee LJ. 1995. Health effects of acid aerosols. Water Air Soil Pollut 85:177-188.

8. REFERENCES

*Xiong JQ, Fang CP, Chen EC, et al. 1997. Influence of organic films on reactivity and hygroscopicity of sulfuric acid aerosol. The Toxicologist 36~1664.

Yadav JS, Kaushik VK. 1996. Effect of sulphur dioxide exposure on human chromosomes. Mutat Res 359.25-29.

*Zeilweger Analytics, Inc. 1996. Single point monitor: Technical note. Zeilweger Analytics, Inc. Lincolnshire, IL.

*Zelikoff JT, Schlesinger RB. 1992. Modulation of pulmonary immune defense mechanism by sulfuric acid: Effects on macrophage-derived tumor necrosis factor and superoxide. Toxicology 76:27 l-28 1.

*Zelikoff JT, Sisco MP, Yang Z, et al. 1994. Immunotoxicity of sulfuric acid aerosol: Effects on pulmonary macrophage effector and functional activities critical for maintaining host resistance against infectious diseases. Toxicology 92:269-286.

*Ziegler EE, Edwards BB, Jensen RL, et al. 1978. Absorption and retention of lead by infants. Pediatr Res 12:29-34.

*Zura KD, Grant WF. 198 1. The role of the hydronium ion in the induction of chromosomal aberrations by weak acid solutions. Mutat Res 84:349-364.