

8. REFERENCES

- *Andersen ME, Krishnan K. 1994. Relating *in vitro* to *in vivo* exposures with physiologically based tissue dosimetry and tissue response models. In: Salem H, ed. Animal test alternatives: Refinement, reduction, replacement. New York, NY: Marcel Dekker, Inc., 9-25.
- *Army. 1978. Toxicity study in rats dosed with diisopropyl methylphosphonate (DIMP) in their drinking water. Aberdeen Proving Ground, MD: Army Armament Research and Development Command. NTIS No. AD-A054-733.
- *ATSDR. 1989. Decision guide for identifying substance-specific data needs related to toxicological profiles. Atlanta, GA: Agency for Toxic Substances and Disease Registry.
- *ATSDR. 1996. The rocky mountain arsenal pilot exposure study; Part II: Analysis of exposure to diisopropylmethylphosphate, aldrin, dieldrin, endrin, isodrin and chlorophenylmethsulfone. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry.
- *Aulerich RJ, Coleman TH, Polin D, et al. 1979. Toxicology study of diisopropyl methylphosphonate and dicyclopentadiene in mallard ducks, bobwhite quail, and mink. East Lansing, MI: Michigan State University, Department of Poultry Science. NTIS No. AD-A087-257.
- *Bailin LJ, Sibert ME, Jonas LA, et al. 1975. Microwave decomposition of toxic vapor simulants. Environmental Science and Technology 9(3):254-258.
- Balog PP, Stanford TB, Nordstrom RJ, et al. 1986. Feasibility assessment of piezoelectric crystals as chemical warfare agent sensors. Final report. AMD-TR-86-003. Columbus, OH: Batelle-Columbus Laboratories. NTIS No. AD-A174-065
- *Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk estimates. Regul Toxicol Pharmacol 8:471-486.
- Bentley RE, Leblanc GA, Hollister TA, et al. 1976. Acute toxicity of diisopropylmethyl phosphonate and dicyclopentadiene to aquatic organisms. Wareham, MA: E.G. and G. Bionomics. NTIS No. AD-A037-750.
- *Bronstein AC, Currance PL. 1988. Emergency care of hazardous materials exposure. St. Louis, MO: The C.V. Mosby Company.

- *Brothers CP. 1990. Evaluation of an interdigitated gate electrode field-effect transistor for detecting organophosphorus compounds. Wright-Patterson AFB, OH: Air Force Institute of Technology. NTIS No. AD-A230-161.
- *Bucci TJ, Mercieca MD, Perman V. 1997. Two-generation reproductive study in mink fed DIMP: Final report, study No. TP-001. Prepared by Pathology Associates International, Jefferson, AR.
- *Bucci TJ, Parker RM, Wustenberg W. 1992. A 90-Day oral toxicity study and a 5-day metabolism study of diisopropyl methylphosphonate (DIMP) in mink. Jefferson, AR: Pathology Associates, Inc. NTIS No. AD-A257-397.
- *Bucci TJ, Wustenberg W, Perman V, et al. 1994. Subchronic oral toxicity study of diisopropyl methylphosphonate in mink. *Fundam Appl Toxicol*22(2):220-230.
- *Buchanan MV, Hettich RL, Xu JH. 1995. Low level detection of chemical agent simulants in meat and milk by ion trap mass spectrometry. *Journal of Hazardous Materials* 42:49-59.
- *Burrows WD. 1978. Development of guidelines for contaminated soil and groundwater at U.S. Army installations. 4th Jt. Conf. Sens. Environ. Pollut., 80-82.
- Butler MA, Ricco AJ. 1992. Fibre-optic micro-mirror studies of the interaction of thin copper films with an organophosphonate. *Anal Chem* 64(17): 1851- 1854.
- *Calabrese E. 1990. Health effects assessment of diisopropyl methylphosphonate. Prepared for State of Colorado, Department of Health, November 12, 1990.
- *Calgon Corporation. 1977. Removal of trace organics from groundwater using granular activated carbons. Denver, CO: Calgon Corporation. Government Reports Announcements and Index (GRA&I) Issue 07. NTIS No. AD-A956-5 1316.
- Casazza JP, Felver ME, Veech RL. 1984. The metabolism of acetone in rats. *J Biol Chem* 259(1):23 1-236.
- *Caton JE, Hazen M, Griest WH, et al. 1994. Rapid method for isolating targeted organic chemicals from biological matrixes. *Anal Lett* 27(2):35 1-362.
- *Clewell HJ LII, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1(4):111-131.
- *Colorado. 1993a. The basic standards for ground water 3.11.0. Colorado Department of Health, Water Quality Commission.
- *Colorado. 1993b. The basic standards and methodologies for surface water 3.1.0. (SCCR 1002-8). Colorado Department of Health, Water Quality Commission
- *Cysewski SJ, Palmer JS, Crookshank HR, et al. 1981. Toxicologic evaluation of diisopropyl methylphosphonate and dicyclopentadiene in cattle. *Arch Environ Contam Toxicol* 10(5):605-615.

- Dacre JC. 1975. Fact sheet on DIMP Toxicity. U.S. Army Medical Bioengineering Research and Development Laboratory.
- Dacre JC. 1984. Recommended interim criteria for three environmental polluting compounds of the RMA Technical Report 8302. U.S. Army Medical Bioengineering Research and Development Laboratory. Fort Detrick, Frederick, MD. NTIS No. AD-A154-82612.
- Dacre JC, Hart ER. 1978. Mammalian toxicologic studies on diisopropyl methylphosphonate. In: Proceedings of the First International Congress on Toxicology. Toronto, ON, Canada, March 30 - April 2, 1977.
- *Dacre JC, Rosenblatt DH. 1987. Drinking water criteria for the groundwater pollutant diisopropyl methylphosphonate (DIMP). Fort Detrick, MD: Army Biomedical Research and Development Lab. NTIS No. AD-A1 86-562.
- *Department of Defense. 1991a. Cytogenetic testing on di-isopropylmethylphosphonate employing the rodent bone marrow micronucleus assay in male B6C3F₁. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991b. Cytogenetic testing on di-isopropylmethylphosphonate employing the rodent bone marrow micronucleus assay in male Fischer 344 rats. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991c. In vitro DNA damage testing on di-isopropylmethylphosphonate employing the single cell gel assay in Chinese hamster ovary cells. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991d. In vitro genotoxicity testing of di-isopropylmethylphosphonate employing the chromosome aberration assay in Chinese hamster ovary cells. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991e. In vitro genotoxicity testing of di-isopropylmethylphosphonate employing the sister chromatid exchange assay in Chinese hamster ovary cells. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991f. In vivo DNA damage testing on di-isopropylmethylphosphonate employing the single cell gel assay in male B6C3F₁ mice. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991 g. In vivo DNA damage testing on di-isopropylmethylphosphonate employing the single cell gel assay in male Fischer 344 rats. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.
- *Department of Defense. 1991 h. Mouse lymphoma mutagenesis assay on diisopropylmethylphosphonate and dimethylmethylphosphonate. Aberdeen Proving Grounds, MD: U.S. Army Environmental Hygiene Agency. Contract no. DAAD05-89C-0224.

- *D.P. Associates. 1995. RMA Environmental Database.
- *Ebasco Services Incorporated. 1991. Surficial soil program. Data Summary, Final Report , Version 3.1.
- *Ebasco Services Incorporated. 1992. Remedial Investigation Summary Report, Final Version 3.2.
- *Ellenhorn MJ, Barceloux DG. 1988. Medical toxicology. Diagnosis and treatment of human poisoning. Elsevier, New York.
- *Environmental Science and Engineering, Inc. 1988. Final phase II data addendum, site 36-3: Insecticide pits. Version 3.1a
- *EPA. 1989. Health advisory for diisopropyl methylphosphonate (DIMP). U.S. Environmental Protection Agency, Office of Drinking Water. NTIS No. PB90-273517.
- EPA. 1990. Interim methods for development of inhalation reference concentrations. Research Triangle Park, NC: U.S. Environmental Protection Agency. EPA/600/88/066F.
- *EPA. 1992. Health advisory for isopropyl methylphosphonic acid (IMPA). U.S. Environmental Protection Agency, Office of the Assistant Administrator for Water. NTIS No. PB92-232149.
- *EPA. 1996. Drinking water regulations and health advisories. Washington, DC: U.S. Environmental Protection Agency, Office of Water. February 1996. EPA 822/R-96-001.
- *Fasano R, Randel M, Sadowski L, et al. 1982. Analytical methods development for dimethyl methylphosphonate, diisopropyl methylphosphonate, and trimethyl phosphate. Cambridge, MA: Arthur D. Little, Inc. NTIS No. AD-A120-863.
- *Ford-Moore AH, Perry BJ. 1951. Diisopropyl methylphosphonate. Org Syntheses 3 1:33-35.
- Foster Wheeler Environmental Corporation. 1995. Feasibility Study, Soil Volume refinement program, geotechnical sampling in the new toxic storage yard, section 31, Rocky Mountain Arsenal. Final Report. Version 2.0.
- *FSTRAC. 1990. Summary of state and federal drinking water standards and guidelines. Chemical Communication Subcommittee, Federal-State Toxicology and Regulatory Alliance Committee. Washington, DC: U.S. Environmental Protection Agency, Office of Water. EPA 570/R-90-019.
- Geary RS, Wall CM, Miller MA, et al. 1994. Partition coefficient measurements of diisopropyl methylphosphonate (DIMP) and trichloroethylene in rats using microdialysis and incorporated in physiologically-based pharmacokinetic (PBPK) modelling [Abstract]. Society of Toxicology 33rd Annual Meeting, Dallas, TX: 13-17 March, 1994. Paper No. 82.
- Griest WH, Ramsey RS, Ho CH, et al. 1992. Supercritical fluid extraction of chemical warfare agent simulants from soil. J Chromatogr 600(2):273-277..

Guilbault GG, Das J. 1969. Chemisorption reactions of diisopropylmethyl phosphonate with transition metal salts. *Journal of Physical Chemistry* 73(7):2243-2247.

Guilbault GG, Scheide EP. 1970. Chemisorption reactions of diisopropyl methyl phosphonate with various metal salts and the effect of complex-ion formation on the phosphorus-oxygen stretching frequency. *Journal of Inorganic and Nuclear Chemistry* 32(9):2959-2962.

Guilbault G, Ngeh-Ngwainbi J, Foley P, et al. 1986. Use of protein coatings on piezoelectric crystals for assay of gaseous pollutants. *Anal Chem Symp Ser Electrochem Sens Anal* 25:335-341.

*Harding Lawson Associates. 1994. Feasibility Study. Soils support program report; Rocky Mountain Arsenal, Commerce City, Colorado. Draft Final Versiou 2.

*Harding Lawson Associates. 1992. Qffpost operable unit remedial investigation final addendum.

*Hardisty JF, Pellerin RJ, Biskup RK, et al. 1977. Reproductive studies with diisopropylmethylphosphonate in rats. Aberdeen Proving Ground, MD: Chemical Systems Laboratory. NTIS No. AD-A040-454

*Hart ER. 1976. Mammalian toxicological evaluation of DIMP and DCPD. Final Report. Kensington, MD: Litton Bionetics, Inc. NTIS No. AD-A058-323.

*Hart ER. 1980. Mammalian toxicological evaluation of DIMP and DCPD (Phase II). Kensington, MD: Litton Bionetics, Inc. NTIS No. AD-A082-685.

*HAZDAT. 1997. Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, GA.

Hlavay J, Guilbault GG. 1977. Applications of the piezoelectric crystal detector in analytical chemistry. *Anal Chem*49(13):1890-1898.

*Hoskin FCG. 1956. Some observations concerning the biochemical inertness of methyl phosphonic and isopropyl methylphosphonic acids. *Can J Biochem Physiol*34:743-746.

*HSDB. 1994. Hazardous substance data bank. Bethesda, MD: National Library of Medicine, National Toxicology Information Program. June 7, 1994.

*IARC. 1997. Overall evaluations of carcinogenicity to humans. World Health Organization, Lyon, France.

*IRIS. 1997. Integrated Risk Information Systems. U.S. Environmental Protection Agency, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, Ohio.

*Ivie GW. 1980. Fate of diisopropyl methylphosphonate (DIMP) in a lactating cow. *Bull Environ Contam Toxicol* 24(1):40-48.

*Jenkins RA, Buchanan MV, Merriweather R, et al. 1994. Movement of chemical warfare simulants through porous media. *Journal of Hazardous Materials* 37(2):303-325.

- *Jones RE, Howell KS, Ringer RK. 1992. Effect of an environmental contaminant, diisopropyl methylphosphonate, on the blood pressure of the mallard. *Biomed Environ Sci* 5(4):3 14-320.
- Karayannis NM, Mikulski CM, Strocko MJ, et al. 197 la. Reactions between diisopropyl methylphosphonate and halides of divalent metal ions. *Z. Anorg Allg C&em* 384(3):267-279.
- Karayannis NM, Mikulski CM, Strocko MJ, et al. 197lb. Reactions of alkali metal iodides with diisopropyl methylphosphonate. *Inorg Chim Acta* 5(3):357-361.
- Karayannis NM, Owens C, Pytlewski LL, et al. 1969. Diisopropyl methylphosphonate complexes of metal perchlorates. *Journal of Inorganic and Nuclear Chemistry* 3 1(7):2059-2071.
- Karayannis NM, Owens C, Pytlewski LL, et al. 1970. Complexes of diisopropyl methylphosphonate with metal salts containing complex anionic groups. *Journal of Inorganic and Nuclear Chemistry* 32(1):83-90.
- Karayannis NM, Pytlewski LL, Owens C. 1980. Studies of adduct formation between diisopropyl methylphosphonate and various metal-salts and complexes. *Journal of Inorganic & Nuclear Chemistry* 42(5):675-682.
- Ketkar SW, Penn SM, Fite WL. 199 1. Influence of coexisting analytes in atmospheric pressure ionization mass spectrometry. *Anal Chem* 63(9):924-925.
- Koch P, Rumpel H, Sutter P, et al. 1989. The reaction of alkanephosphonic acid esters with metals. *Phosphorus, Sulfur, Silicon, and Related Elements* 44(1-2):75-85.
- *Kolesar ES, Wiseman JM. 1989. Interdigitated gate electrode field effect transistor for the selective detection of nitrogen dioxide and diisopropyl methylphosphonate. *Anal Chem* 61(21):2355.
- Kolesar ES, Wiseman JM. 199 1. Selective detection of nitrogen-dioxide and diisopropyl methylphosphonate with an interdigitated gate electrode field-effect transistor (IGEFET). *Sensors and Actuators B - Chemical* 5(1-4):37-46.
- *Kolesar ES, Brothers CP, Howe CP, et al. 1992. Integrated-circuit microsensor for selectively detecting nitrogen-dioxide and diisopropyl methylphosphonate. *Thin Solid Films* 220(1-2):30-37.
- Krikorian SE, Chorn TA, King JW. 1987. Determination of octanovwater partition coefficients of certain organophosphorus compounds using high-performance liqluid chromatography. *Quant Struct-Act Relat* 6(2):65-69.
- *Krishnan K, Andersen ME. 1994. Physiologically based pharmacokinetic modeling in toxicology. In: Hayes W, ed. *Principles and methods of toxicology*. 3rd ed. New York, NY: Raven Press, Ltd., 149-188.
- *Krishnan K, Andersen ME, Clewell HJ III, et al. 1994. Physiologically based pharmacokinetic modeling of chemical mixtures. In: Yang, RSA, ed. *Toxicology of chemical mixtures*. New York, NY: Academic Press, 399-437.

8. REFERENCES

*Kristoff J, Guilbault GG. 1983. Application of uncoated piezoelectric crystals for the detection of an organic phosphonate. *Anal Chim Acta* 149:337-341.

Kuitunen ML, Hartonen K, Riekkola ML. 1991. Analysis of chemical warfare agents in soil samples by off-line supercritical fluid extraction and capillary gas chromatography. *Journal of Microcolumn Separation* 3(6):505-512.

*Leung H-W. 1993. Physiologically-based pharmacokinetic modeling. In: Ballantyne B, Marrs T, Turner P, eds. *General and applied toxicology*. New York, NY: Stockton Press, 1:153-164.

*Little PJ, Reynolds ML, Bowman ER, et al. 1986. Tissue disposition of (3H)sarin and its metabolites in mice. *Toxicol Appl Pharmacol* 83(3):412-419.

*Little PJ, Scimeca JA, Martin BR. 1988. Distribution of (3H)diisopropyl fluorophosphate, (3H)soman, (3H)sarin, and their metabolites in mouse brain. *Drug Metab Dispos* 16(4):515-520.

Long SR, Christesen SD. 1989. Laser ionization studies of organophosphonates and phosphorus oxide radicals. *Journal of Physical Chemistry* 93(18):6625-6628.

*McPhillips DM, Armer TA, Owen DR. 1983. Grafted synthetic sorbents for enhanced removal of toxic chemical agents from plasma. *J Biomed Mater Res* 17(6):993-1002.

Mikulski CM, Harris N, Iaconianni FJ, et al. 1980. Group-VI metal hexacarbonyl reactions with diisopropyl methylphosphonate. *Inorganic & Nuclear Chemistry* 16(2):79-89.

Mikulski CM, Pytlewski LL, Karayannis NM. 1977. WCL6 and MOCLS interactions with diisopropyl methylphosphonate. *Inorganic & Nuclear Chemistry* 13(3-4): 165-171.

*Milanko OS, Milinkovic SA, Rajakovic LV. 1992. Improved methodology for testing and characterization of piezoelectric gas sensors. *Anal Chim Acta* 264(1):43-52.

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

*NIOSH. 1981. Health hazard evaluation report HETA 81-176-968, Rocky Mountain Arsenal, Basin F, Commerce City, Colorado. Cincinnati, OH: National Institute for Occupational Safety and Health. NTIS No. PB83-161257.

NTDB. 1997. National Trade Data Bank. U.S. Department of Commerce, Economics and Statistics Administration, Washington, D.C.

*O'Donovan PA, Woodward JE. 1977a. Investigation of the soil translocation and phytotoxicity of DIMP and DCPD. Downey, CA: Aerojet Ordnance and Manufacturing Co. NTIS No. AD-A058-790.

*O'Donovan PA, Woodward JE. 1977b. Investigations of the environmental fate and phytotoxicity of DIMP and DCPD. Downey, CA: Aerojet Ordnance Co. NTIS No. AD-A956-500.

8. REFERENCES

- Owen OE, Trapp VE, Skutches CL, et al. 1982. Acetone metabolism during diabetic ketoacidosis. *Diabetes* 31:242-248
- Owens, C. 1969. Adducts of metal halides and diisopropylmethylphosphonate: synthesis and properties. [Dissertation] Philadelphia, PA: Drexel Institute of Technology.
- Owens C, Karyannis NM, Pytlewski LL, et al. 1971. Infrared and proton nuclear magnetic resonance studies of adduct of tin(II) and (IV) and titanium(IV) halides with diisopropyl methylphosphonate. *Journal of Physical Chemistry* 75(5):637-641.
- Owens C, Pytlewski LL, Mikulski CM, et al. 1979. X-ray crystallographic, morphological and thermal-decomposition studies of 2-l adducts of diisopropyl methylphosphonate with stannous and stannic halides. *Journal of Inorganic & Nuclear Chemistry* 41(9):1261-1268.
- *Pal T, Griffin GD, Miller GH, et al. 1993. Permeation measurements of chemical agent simulants through protective clothing materials. *Journal of Hazardous Materials* 33(1):123-141.
- *Palmer JS, Cysewski SJ, Crockshank HR, et al. 1979. Toxicologic evaluation and fate of diisopropyl methylphosphonate (DIMP) and dicyclopentadiene (DCPD) in cattle. College Station, TX: Science and Technology Administration. NTIS No. AD-8093-673.
- Pappas AA, Ackerman BH, Olsen KM, et al. 1991. Isopropanol ingestion: A report of 6 episodes with isopropanol and acetone serum concentration time data. *Clin Toxicol* 21(1): 11-21.
- Purdon JG, Pagotto JG, Miller RK. 1989. Preparation, stability, and quantitative analysis by gas chromatography and gas chromatography-electron impact mass spectrometry of tert-butyldimethylsilyl derivatives of some alkylphosphonic and alkyl methylphosphonic acids. *J Chromatogr* 475:261-272.
- *Radziemski LJ Jr. 1981. Laser-induced photodestruction of the organo-phosphates: DIMP and DMMP. *J Environ Sci Health* 16(3):337-361.
- Reichard GA, Skutches CL, Hoeldtke RD, et al. 1986. Acetone metabolism in humans during diabetic ketoacidosis. *Diabetes* 35:668-674.
- *Roberts WC, Abernathy CO, Commons BJ. 1995. US drinking water health advisories; methodology and basis for some munitions chemicals. *Toxicol Ecotoxicol News* 2(1):4-8.
- *Robson SG. 1977. Digital model study of groundwater contamination by diisopropylmethylphosphonate (DIMP), RMA near Denver, Colorado. United States Geological Survey. NTIS No. AD-A956-502.
- *Robson SG. 1981. Computer simulation of movement of DIMP-contaminated groundwater near the Rocky Mountain Arsenal, Colorado. ASTM Special Technical Publication 746:209-220.
- Rosenblatt DH, Miller TA, Dacre JC, et al. 1975a. Problem definition studies on potential environmental pollutants. I. Toxicology and ecological hazards of 16 substances at the RMA. Technical Report 7508. U.S. Army Medical Bioengineering Research and Development Laboratory, Fort Detrick, Frederick, MD.

- *Rosenblatt DH, Miller TA, Dacre JC, et al. 1975b. Problem definition studies on potential environmental pollutants. II. Physical, chemical, toxicological, and biological properties of 16 substances. Technical Report 7509. U.S. Army Medical Bioengineering Research and Development Laboratory, Fort Detrick, Frederick, MD. NTIS No. AD-A030-428.
- *Sass S, Parker GA. 1980. Structure-response relationship of gas chromatography-flame photometric detection to some organophosphorus compounds. *J Chromatogr* 189(3):331-349.
- Sass S, Fisher TL, Steger RJ, et al. 1982. Gas-chromatographic methods for the analysis of trace quantities of isopropyl methylphosphonofluoridate and associated compounds, in situ and in decontamination effluent. *J Chromatogr* 238(2):445-456.
- *Sawyer TW, Weiss MT, D'Agostino PA, et al. 1992. Bioassay of organophosphate nerve agents in soil using neuronal tissue cultures. *J Appl Toxicol* 12(1):1-6.
- Scheide EP, Guilbault GG. 1972. Piezoelectric detectors for organophosphorus compounds and pesticides. *Anal Chem* 44(11):1764-1768.
- *Schneider RR, Hunter DB. 1993. Nursing disease in mink: Clinical and postmortem findings. *Vet Pathol* 30(6):512-521.
- Shin JE. 1989. Evaluation of chemically-sensitive field-effect transistors for detection of organophosphorus compounds. Wright-Patterson AFB, OH: Air Force Institute of Technology. NTIS No. AD-A215-536.
- *Snodgrass HL, Metker LM. 1992. Dermal penetration of C-14-labelled diisopropyl methylphosphonate in swine. *J Toxicol Environ Health* 36(4):367-376.
- Snyder AP, Harden CS. 1990. Determination of the fragmentation mechanisms of organophosphorus ions by water and deuterium oxide atmospheric-pressure ionization tandem mass spectrometry. II. Dialkylphosphonate ions. *Org Mass Spectrom* 25(6):301-308.
- *Spangord RJ, Chou T, Mabey WR. 1979. Studies of environmental fates of DIMP and DCPD. Menlo Park, CA: SRI, International. NTIS No. AD-A078-236.
- St. John GA, Anbar M. 1974. Determination of subpicogram amounts of chemical agents in the atmosphere. EC-CR-74028. Menlo Park, CA: Stanford Research Institute. NTIS No. AD/A-000-886.
- *Stutz DR, Ulin S. 1992. Basic and advanced life support. Hazardous materials injuries: A handbook for prehospital care, 3rd ed. Bradford Communications Corporation, Beltsville, MD.
- *Syage JA, Pollard JE, Cohen RB. 1988. Ultrasensitive detection of atmospheric constituents-by supersonic molecular beam, multiphoton ionization mass spectroscopy. El Segundo, CA: Aerospace Corp. NTIS No. AD-A202-299.
- *Tornes JA, Opstad AM, Johnsen BA. 1991. Use of solid-phase extraction in determination of chemical warfare agents. Part II. Determination of chemical warfare agents in samples from a battlefield environment. *International Journal of Environmental Analytical Chemistry* 44(4):227-232.

TR195. 1997. Toxic Chemical Release Inventory. U.S. Environmental Protection Agency. Office of Toxic Substances, Washington, DC.

USGS. 1995. Groundwater monitoring program evaluation report for water year 1995. Rocky Mountain Arsenal, Commerce City, Colorado. United States Geological Survey.

USGS. 1998. Surface water and groundwater monitoring programs. United States Geological Survey. Rocky Mountain Arsenal, Annual Data Summary, 1997 Water Year. Final Report.

*Van Voris P, Cataldo DA, Ligothke MW, et al. 1987. Acute environmental toxicity and persistence of selected chemical agent simulants: diisopropyl fluorophosphate (DFP) and diisopropyl methylphosphonate (DIMP). NTIS No. AD-A181-309.

Verweij A, Boter I-IL, Degenhardt C. 1979. Chemical warfare agents: verification of compounds containing the phosphorus-methyl linkage in waste water. *Science* 204(4393):616-618.

*Vo-Dinh T, Pal, T. 1992. Development of a fluorescence quenching technique to detect permeation of chemical agent simulants through protective clothing materials. *Appl Spectrosc* 46(4):677-681.

*Weiss DJ, Geary RS, Wustenberg W, et al. 1994. Comparative metabolism of diisopropyl methylphosphonate in mink and rats. *Arch Environ Contam Toxicol* 27:420-425.

Weiss DJ, Wustenberg W, Bucci TJ, et al. 1992. Hematologic alterations in mink induced by diisopropyl methylphosphonate (DIMP) [Abstract]. *Toxicol Pathol* 20:646.

*Williams RT, Ziegenfuss PS, Marks PJ. 1989. Installation restoration program environmental technology department. Biodegradation of DIMP, dieldrin, isodrin, DBCP, and PCPMSO in the RMA soils. West Chester, PA: Roy F. Weston, Inc. NTIS No. AD-A245-852.

Wils ERJ. 1990. Mass spectral data of precursors of chemical warfare agents. *Fresenius Journal of Analytical Chemistry* 338(1):22-27.

*Zappi ME, Fleming EC, Thompson DW, et al. 1990. Treatability study of four contaminated areas at the RMA, Commerce City, Colorado using chemical oxidation with ultraviolet radiation catalyzation. Proceedings of the 7th National Conference on Hazardous Waste Materials, 405-409.