

## **Ben Thomas, Ph.D.**

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### **Professional Profile**

Dr. Ben Thomas brings more than 35 years of professional experience in the fields of toxicology, pathology, risk mitigation, regulatory negotiation, litigation support, strategic planning, program development, and program management. Ben received his bachelor degree in biology (chemistry minor) from Tulane University, and his master and doctoral degrees in pathology from the University of Texas Graduate School of Biomedical Sciences at Houston. He was named a Rosalie B. Hite Postdoctoral Fellow at the University of Texas M.D. Anderson Cancer Center, where he conducted research on the mechanisms of chemical toxicity and carcinogenicity. Dr. Thomas worked as a toxicologist for 12 ½ years with the Health, Safety & Environment department of Shell Oil Company. During that time, he was active in national and international health and environmental research programs, and at one point was overseeing more than \$40 million in biomedical research. He chaired the Toxicology Committee of the American Petroleum Institute (API), the API Benzene Toxicology Task Force, the API Gasoline in Groundwater Task Force, the Toxicology Research Task Group on 1,3-Butadiene of the Chemical Manufacturers Association (now the American Chemical Council), and other industrial research panels. Ben joined the consulting industry in 1990, and is internationally recognized for his health and environmental expertise. He is well respected in the regulatory community, and was appointed as a member of the Science Advisory Panel of the National Urban Air Toxics Research Center (NUATRC), that was created by the Clean Air Act Amendments of 1990. In addition to his consulting and corporate work, Dr. Thomas holds an academic appointment as Professor (adjunct) at the University of Texas Health Science Center at Houston.

### **Credentials and Professional Honors**

Ph.D., Pathology, University of Texas Health Science Center at Houston, 1973

M.S., Pathology, University of Texas Health Science Center at Houston, 1971

B.S., Biology, Tulane University, 1969

Rosalie B. Hite Postdoctoral Fellow, University of Texas M.D. Anderson Hospital & Tumor Institute, Houston (1974–1977); Sigma Xi

## **Employment History**

Principal, Ben Thomas Group, 2009-present  
President, CleanBlue Water, LLC, 2009-present  
Senior Managing Scientist, Exponent, 2005-2009  
Principal and Vice President, RAM Group, 2003-2005  
Senior Scientist, Conestoga-Rovers & Associates/RAM Group, 2001-2003  
Principal and Vice President, RAM Group, 1999-2001  
Adjunct Professor (Toxicology/Risk Assessment), University of Texas Health Science Center at Houston, 1996-present  
Principal and Executive Vice President; Compliance Solutions, Inc., 1995-1999  
Principal/Senior Science Advisor; ENVIRON Corporation, 1993-1995  
Regional Program Manager/Director of Toxicology and Risk Management, ENSR Consulting & Engineering, 1990-1993  
Staff Toxicologist; Shell Oil Company; Health, Safety & Environment, 1977-1990

## **Publications**

Saraf S, Thomas B (2007). Biodiesel: a feedstock quandary. *Hydrocarbon Processing* 2007(9): 132-134.

Saraf S, Thomas B (2007). Influence of feedstock and process chemistry on biodiesel quality. *Transactions of the Institution of Chemical Engineering: Part B, Biofuel Special Issue* 85: 360-364.

Zheng N, Thomas B. Causal relationships between occupational and environmental exposures and injury: general causation vs. specific causation. *J Environ Occup Med* 2005; 22:181-183. [Chinese].

Cox LA, Jr, Thomas FB. A generic PBPK modeling tool for rapidly developing PBPK models. *Toxicologist* 1992; 12(1):188 (Abstract 684).

Thomas FB, Halder CA, Holdsworth CE, Cockrell BY. Hydrocarbon nephropathy in male rats. Part II. Temporal and morphologic characterization of the renal lesions. In: *Proc. Symposium on Hydrocarbon Toxicity*, University of Surrey, Surrey, England, 1984.

Thomas FB, Thomas DM, Shewach DS, Furlong NB. Substrate specificity of aryl hydrocarbon (benzo(a)pyrene) hydroxylase. pp. 669-683. In: *Polynuclear Aromatic Hydrocarbons, 3rd International Symposium on Chemistry and Biology—Carcinogenesis and Mutagenesis*. Jones PW, Leber P (eds.), 1979.

Thomas FB, Furlong NB. A simple radioassay of benzo[a]pyrene activation: Observations on the covalent interactions of benzo[a]pyrene with protein. *Anal Biochem* 1976; 72:546-551.

Tessmer CF, Hrgovcic M, Thomas FB, Wilbur J, Mumford DM. Long-term serum copper studies in acute leukemia in children. In: The Year Book of Cancer 1974. Clark RL Cumley RS (eds.), 1974.

Furlong NB, Thomas FB, Mintz CG. A probable mechanism for apurinic acid inhibition of DNA synthesis. FEBS Letters 1974; 41:256-258.

Tessmer CF, Hrgovcic M, Thomas FB, Fuller LM, Castro JR. Serum copper as an index of tumor response to radiotherapy. Radiology 1973; 106-112.

Hrgovcic M, Tessmer CF, Thomas FB, Fuller LM, Gamble JF, Shullenberger CC. Significance of serum copper levels in adult patients with Hodgkin's disease. Cancer 1973; 31:1337-1345.

Tessmer CF, Krohn W, Johnston D, Thomas FB, Hrgovcic M, Brown BW. Serum copper in children (6-12 years): An age correction factor. Am J Clin Pathol 1973; 60:870-878.

Hrgovcic M, Tessmer CF, Thomas FB, Ong PS, Gamble JF, Shullenberger CC. Serum copper observations in patients with malignant lymphoma. Cancer 1973; 32:1512-1514.

Thomas FB. Copper binding proteins in normal human serum and in Hodgkin's disease. Dissertation, The University of Texas Health Science Center at Houston, Graduate School of Biomedical Sciences, 1973.

Tessmer CF, Hrgovcic M, Brown BW, Wilbur J, Thomas FB. Serum copper correlations with bone marrow. Cancer 1972; 30:293-297.

Tessmer CF, Hrgovcic M, Thomas FB, Wilbur JR, Mumford DM. Long-term serum copper studies in acute leukemia in children. Cancer 1972; 30:358-365.

Thomas FB. Serum copper relation to estrogen administration: A comparative study. Thesis, The University of Texas Health Science Center at Houston, The Graduate School of Biomedical Sciences, 1971.

Pienta RJ, Tessmer CF, Thomas FB. Effect of murine oncogenic viruses on serum copper levels. Cancer Res 1969; 10:69 (Abstract).

### **Book Chapters**

Thomas FB, Simpson BJ. Application of short-term assays by the petroleum industry to identify skin carcinogens. pp. 393-399. In: Skin Carcinogenesis: Mechanisms and Human Relevance. Slaga TJ, Klein-Szanto AJP, Boutwell RK, Stevenson DE, Spitzer HL, D'Motto B (eds.), 1989.

Thomas FB. Toxicological effects of benzene. pp. 7–15. In: Benzene in Florida Groundwater: An Assessment of the Significance to Human Health. American Petroleum Institute, Washington, DC, 1986.

Sussman RM, Thomas FB, Irons RD. Risk assessment issues presented by 1,3-butadiene. pp. 177-214. In: Risk Assessment in the Chemical Industry. Chemical Manufacturers Association, Washington, DC, 1985.

Hrgovcic M, Tessmer CF, Brown BW, Wilbur JR, Mumford DM, Thomas FB, Shullenberger CC, Taylor HG. Serum copper studies in the lymphomas and acute leukemias. Progr Clin Cancer 1973; 5:121–153.

### **Presentations**

Saraf S & Thomas B. Biodiesel: current trends and opportunities. Invited paper, presented at the South Texas Section of American Institute of Chemical Engineers (AIChE), Houston, TX, May 3, 2007.

Thomas B. Health risks associated with PFOA. Invited paper, presented at the Mealey's PFOA/C-8 Science, Risk, and Litigation Conference, Philadelphia, PA, October 24, 2005.

Zheng N, Thomas B. Does aluminum welding fume cause clinically significant pneumoconiosis and lung cancer? – An analysis of specific causation. Poster presented at the 44th Annual Meeting of the Society of Toxicology, New Orleans, LA, 2005.

Bobst S, Zheng N, Thomas B. Real world toxicology: A framework for evaluating tort claims in the courtroom. Poster presented at the 44th Annual Meeting of the Society of Toxicology, New Orleans, LA, 2005.

Zheng N, Thomas B. Causal relationships between occupational and environmental chemical exposures and diseases in toxic tort cases. Presented, 3rd International Academic Conference on Environmental and Occupational Medicine, Shanghai, China, 2004. [Chinese].

Thomas B. MTBE and benzene toxicology. Panel discussion with Scott R and Mehlman M at Mealey's MTBE & UST Litigation Conference; Marina del Rey, CA, November 4, 2002.

Zheng N, Thomas B. Development of generic soil and groundwater cleanup standards for sodium chlorate. Invited paper, 3rd National Conference of the Chinese Society of Toxicology, Beijing, China, 2001. [Also presented to Fudan University and Beijing University School of Public Health] [Chinese].

Thomas B. A toxicologist's perspective of MTBE. Invited paper, presented at the Petroleum Marketing Attorneys Meeting, Washington, DC, April 4, 2000.

Thomas B. Toxicology of methyl tertiary-butyl ether (MTBE) – an update. Invited paper, presented at Mealey's UST and MTBE Litigation Conference, Amelia Island, FL, November 16, 1999.

Thomas B. Evaluation of health issues associated with E&P wastes. Invited paper, presented at the Louisiana Gulf Coast Oil Exposition, Lafayette, LA, October 29, 1999.

Thomas B. MTBE – toxicology and the use of animal data to prove causality. Invited paper, presented to the 2nd Annual Appellate Judges and Lawyers Symposium: Scientific Methodology and the Admissibility of Expert Testimony, The University of Kansas, Law and Organizational Economic Center, Lawrence, KS, May 13–15, 1999.

Thomas B. Kekulé's devils and E&P waste. Invited paper, presented at the Society of Petroleum Engineers, Evangeline Section, Environmental Issues Forum, Lafayette, LA, February 22, 1999.

Thomas B. Toxicological issues in the chemical processing industry. Invited paper; presented at the 1st Annual Symposium of the Mary Kay O'Connor Process Safety Center, George Bush Presidential Conference Center; College Station, TX, May 30–31, 1998.

Thomas B. The toxicology of methyl tertiary-butyl ether (MTBE). Invited paper, presented at Mealey's Underground Storage Tank Conference, Amelia Island, FL, June 9, 1998.

Thomas B. The toxicological significance of chemicals in water supplies (or what is clean water). Invited paper, presented at the ELA Seminar on New Ground-Water Supply Issues, Houston, TX, April 16, 1998.

Thomas B, Handley B. Offsite consequence analysis: the public connection. Invited paper, presented at the Hazard Assessment/Offsite Consequence Analysis Session, Petro-Safe 98, Houston, TX, January 28, 1998.

Thomas B, Handley B. Risk-based corrective action. Training course for the TNRCC certification of Corrective Action Project Managers. Texas Natural Resource Conservation Commission, contract through the Texas A&M Engineering Extension Service, 1997.

Thomas FB, Plunkett L, Libicki SB & Kappleman WB. The comprehensive assessment of risks due to emissions from hazardous waste incinerators. Training course for the Louisiana Department of Environmental Quality, Baton Rouge, LA, June 26–28, 1995.

Thomas B, Plunkett L, Wojciak J. Strategic approaches to implementing the Texas Water Commission's Risk Reduction Rules. Presented at the ENVIRON Workshop on the Risk Reduction Rules, Houston, TX, June 17, 1993.

Thomas B. Risk characterization. Invited paper, presented to the Association for the Environmental Health of Soils, Houston, TX, May 12, 1993.

Thomas B, Thompson R, Lu C. The risk-based remediation of total petroleum hydrocarbon contamination of soils. Invited paper, presented at Petro-Safe '93, Houston, TX, January 27, 1993.

Cox LA, Jr., Thomas FB, Woodrow JO. Decisions with unknown consequences: a random valuation model. Presented at the Annual Meeting of the Society for Risk Analysis, San Diego, CA, December 9, 1992.

Thompson RA, Woodrow JO, Thomas FB. Risk based prioritization of remediation options. Presented at the Annual Meeting of the Society for Risk Analysis, San Diego, CA, December 7, 1992.

Thomas B, Brassow C. The TWC Risk Reduction Rules and remediation of soil contamination. Presented at How to Classify and Clean up or Dispose of Solid Waste, sponsored by Texas Environmental Education Services, Houston, TX, October 16, 1992.

Thomas FB. Multi-media risk assessment. Invited paper, presented to the Association for the Environmental Health of Soils, Houston, TX, July 1992.

Thomas FB. Risk assessment and the Clean Air Act Amendments. Presented at the ENSR Breakfast Seminar, Houston, TX, May 2, 1991.

Thomas FB. The evolving Material Safety Data Sheet. Invited paper, presented to the Dallas Bar Association, Environmental Law Section, Dallas, TX, March 28, 1991.

Thomas FB. Multi-media risk assessment. Invited paper, presented at the Bridgestone/Firestone Environmental Affairs Domestic Conference, May 8, Nashville, TN, 1991.

Thomas FB. Application of toxicology, epidemiology and industrial hygiene. Invited paper, presented at the "Toxic Tort Litigation" Course sponsored by the Continuing Legal Education Committee of the Houston Bar Association, October 11, Houston, TX, 1991.

Thomas FB. The science and art of risk assessment. Invited paper, presented at Marathon Oil Company's Health, Environment and Safety Conference, Houston, TX, October 10, 1990.

Thomas FB. Science vs. compliance: the argument for QA's involvement in science. Invited paper, presented at the Annual Meeting of the Society of Quality Assurance, Orlando, FL, October 3, 1990.

Thomas FB. The toxicology of 1,3-butadiene. Invited paper, presented to the American Petroleum Institute Toxicology Committee, Toronto, Ontario, September 2, 1990.

Thomas FB. Air toxics impacts on human health and the ecology. Presented at Air Toxic Compliance Conference, Executive Enterprises, Inc., Houston, TX, June 11-12, 1990.

Thomas FB. Toxicological overview of ethylene oxide, butadiene, gasoline, polyolefin manufacturing, and composites. Invited paper, presented at the American Occupational Health Association (AOHA) Conference, Houston, TX, May 3, 1990.

Von Burg R, Lakin M, Thomas B, Egan B. Public interest group use of your SARA 313 data. Invited paper, presented at the Annual Meeting of the National Petroleum Refiners Association, San Antonio, TX, March 25-27, 1990.

Thomas FB, Hulse M. Compounds in asphalt cement fumes and their health effects. Invited paper, presented to the International Society for Asphalt Pavements, Baltimore, MD, November 9, 1989.

Thomas FB. Neurotoxicology. Invited paper, presented to the Gulf Coast Section of the American Industrial Hygiene Association, Houston, TX, March 8, 1984.

Thomas FB. Neurotoxicology. Invited paper, presented to the Deep South Section of the American Industrial Hygiene Association, New Orleans, LA, October 31, 1983.

Thomas FB. Evaluation of the neurotoxic potential of hexacarbon solvent mixtures in the Sprague-Dawley rat. Invited paper, presented to the Mid-West Regional Chapter of the Society of Toxicology, Chicago, IL, May 12, 1983.

Lington AW, Lewis SC, Thomas FB, Granville GC, Cragg ST, Spencer PS. The neurotoxic activity of commercial hexane mixtures in the male rat (Part I). Presented to the Annual Meeting of the Society of Toxicology, 1983.

Lington AW, Lewis SC, Thomas FB, Granville GC, Cragg ST, Spencer PS. The neurotoxic activity of commercial hexane mixtures in the male rat (Part II). Presented to the Annual Meeting of the Society of Toxicology, 1983.

Thomas FB. Applications of Sephadex G-200 chromatography to the study of the copper binding components of human serum. Presented to the Southeastern Texas Section of the American Chemical Society, Houston, TX, 1974.

Mintz CG, Thomas FB, Furlong NB. Approaches to the in-vitro synthesis of ara-C apurines. Presented to the Southwest Section of the American Association for Cancer Research, November 8-9, New Orleans, LA, 1974.

Thomas FB, Furlong NB. Biochemical studies on the role of DNA polymerase in benzo[a]pyrene carcinogenesis. Presented to the Southwest Section of the American Association for Cancer Research, November 8-9, New Orleans, LA, 1974.

Thomas FB. Atomic absorption spectrophotometry in the clinical laboratory. Presented to the Annual Convention of the Texas Society of Medical Technologists, Houston, TX, May 12, 1972.

### **Academic Appointments**

- Professor (Adjunct Faculty), University of Texas Health Science Center at Houston, and The University of Texas M.D. Anderson Cancer Center at Houston (1996-Present)

### **Research Experience**

- Chairman, Toxicology Work Group, Asphalt Institute (1989–1990)
- Chairman, Toxicology Committee, American Petroleum Institute (1987–1989)
- North American representative to the Butadiene Steering Committee, International Institute of Synthetic Rubber Producers (IISRP) (1986–1990)
- Chairman, 1,3-Butadiene Toxicology Research Task Group, Chemical Manufacturers Association (now American Chemical Council) (1985–1990)
- Chairman, Neurotoxicology Task Force (PS-29), American Petroleum Institute (1980–1985)
- Chairman, Benzene Toxicology Task Force (PS-7), American Petroleum Institute (1977–1990)

### **Science Advisory Boards/Panels**

- Science Advisory Board, National Urban Air Toxics Research Center (1991–1993)