Exponent®
Engineering & Scientific Consulting

Michael Posson, M.P.H., CIH

Senior Managing Scientist | Health Sciences
475 14th Street, Suite 400 | Oakland, CA 94612
(510) 268-5077 tel | mposson@exponent.com

Professional Profile

Mr. Posson has over 17 years of experience applying his background in industrial hygiene, toxicology, environmental health, exposure assessment to solve complex problems in areas such as environmental and occupational exposure assessment, emergency preparedness, indoor air quality, litigation support, air toxics risk assessment, risk management, and risk communication. He has applied this background to numerous human health exposure assessments, risk assessments, industrial hygiene evaluations, and environmental investigations for sites and facilities in California and throughout the United States. The assessments included evaluation of a wide range of industrial and environmental chemicals, physical hazards, biological contaminants, media, and exposure pathways at sites situated in different geographical locations and environmental settings. Mr. Posson serves as an expert witness.

Academic Credentials & Professional Honors

M.P.H., Public Health, University of California, Berkeley, 2009

B.S., Environmental Toxicology, University of California, Davis, 2003

Dr. Robert T. Legge Award, American Industrial Hygiene Association - Northern California Section, 2009

Center for Health Leadership Award, Environmental Health Sciences, University of California, Berkeley, 2008

NIOSH Industrial Hygiene Traineeship, 2007-2009

Licenses and Certifications

Certified Industrial Hygienist (CIH), American Board of Industrial Hygiene, CP 10347

Hazardous Waste and Emergency Response (HAZWOPER), January 2021

Prior Experience

Extension Program Instructor, University of California, Davis, 2014-Present

Principal Industrial Hygienist, Northrop-Grumman, 2016-2017

Managing Scientist, Exponent, Inc., 2013-2016

Industrial Hygienist, Lawrence Livermore National Laboratory, 2013

Senior Scientist, Exponent Inc., 2011-2013

Senior Associate, ENVIRON International Corporation, 2004-2010

Environmental Scientist, Cameron-Cole, LLC, 2004

Professional Affiliations

American Industrial Hygiene Association, National (member)

American Industrial Hygiene Association, Northern California Section (member)

Publications

Posson M, Kalmes R, and Sheehan, P. Re-creation of Historical Community Exposures to Dusts and Metals, 2018 American Industrial Hygiene Conference and Exposition (AIHce), Philadelphia, PA, May 2018.

PDC:104 The New AIHA Technical Guide for Wildfire Impact Investigations for the OEHS Professional. Co-Instructor at the 2018 American Industrial Hygiene Conference and Exposition (AIHce), Philadelphia, PA, May 2018.

American Industrial Hygiene Association (AIHA), Product Stewardship Society. 2018. Professional Practices of Product Stewardship. Ed. Gail Hart. Falls Church, VA. [Co-Authored - Case Study: Reactive Formaldehyde Exposures in Hair Straightening Products and Proposition 65 Risk Assessment]

Sheehan P, Kalmes R, Posson M, Singhal A, Lewis R, Gauthier A. Challenges in assessing health risk from exposure to bisphenol A (BPA) in consumer products. Poster presentation at the Society of Toxicology Meeting, San Antonio, TX, March 11-15, 2018.

Singhal A, Posson M, Jones A, Lewis RC, Schenk J, Kalmes R, Sheehan P. Assessing risk for consumer products under California's Proposition 65 regulations. Poster presentation at the Society of Environmental Toxicology and Chemistry Annual Meeting, Orlando, FL, November 6-10, 2016.

Posson M and Kalmes R. Formaldehyde Exposure Assessment During the Application of Professional Hair Smoothing Products. 2016 American Industrial Hygiene Conference and Exposition (AIHce), Baltimore, MD, May 2016.

Jokar A, Wade RL, Posson M, Bennett P. Impact of wildfire particulate on common building materials. Proceedings, 2nd International Smoke Symposium; art. no. 3807, Long Beach, CA, 2016.

Posson M, Kalmes R, M Fedoruk. Assessing Formaldehyde Exposure from Consumer Product Hair Products. SETAC North America 36th Annual Meeting, Salt Lake City, Utah November 1-5, 2015.

Sheehan P, Lowney Y, Kalmes R, Bogen K, Posson M, Glomski M, Singhal A, Volberg V, Bekerman B, Goswami E. Assessing User Exposure to Consumer Products: Methods Specific to Product Use and Exposure Route to Assess Consumer Health Risks. SETAC North America 36th Annual Meeting, Salt Lake City, Utah November 1-5, 2015.

Posson M, Bogen K, Glomski M, Sheehan P. A Suite of Integrated Predictive Models for the Evaluation of Consumer Exposures to Organic Chemicals in Paper Products. SETAC North America 36th Annual Meeting, Salt Lake City, Utah November 1-5, 2015.

Posson M, Bogen KT, Glomski M, Sheehan M. Organic Chemical Exposure and Dose from Paper Products: A New Suite of Integrated Predictive Models. Society of Toxicology 53rd Annual Meeting and ToxExpo, Phoenix, AZ, March 2014.

Sheehan P, Bogen K, Posson M, Hellerstein J. Characterizing potential chemical exposures and associated risks from food packaging: A product stewardship challenge. 2013 American Industrial Hygiene Conference and Exposition (AIHce), Montreal, Canada, May 2013.

Kalmes R, Posson M, Fedoruk M. Formaldehyde exposure assessment during the application of professional hair smoothing products. 2012 American Industrial Hygiene Conference and Exposition (AIHce), Indianapolis, IN, June 2012.

Hong S, Kalmes R, Posson M, Richter R, Fedoruk M. Formaldehyde exposures associated with use of professional keratin hair-smoothing products. Society of Toxicology 51st Annual Meeting and ToxExpo, March 2012.

Harper P, Daugherty D, Posson M. Nontraditional land uses and emergency planning: Challenges associated with developing plans to mitigate impacts from potential toxic gas releases. 2011 American Industrial Hygiene Conference and Exposition (AIHce), Portland, OR, May 2011.

Caviness G, Miesner L, Louie J, Posson M. Impact of applying age sensitivity factors (ASFs) on Risk Characterization. Annual International Conference on Soil, Water, Energy and Air and AEHS Foundation Meeting, San Diego, CA, March 2011.

Posson M, Keinath M, Daugherty D. Building the LEED IAQ team: A case study in avoiding pitfalls of conducting LEED IAQ testing. 2009 American Industrial Hygiene Conference and Exposition (AIHce), Toronto, Canada, June 2009.

Scofield R, Caviness G, Posson M. Unique risk communication challenges posed by the estimating human health risks for diesel exhaust. 2008 Annual Meeting, Air & Waste Management Association (AWMA), Portland, OR, June 2008.

United States Environmental Protection Agency (USEPA). Concepts, methods and data sources for cumulative health risk assessment of multiple chemicals, exposures and effects: A resource document, August 2007. [Contributing Author].

Project Experience

Evaluated single family houses, apartments, office buildings, and industrial sites for concerns about contamination and potential health effects associated with environmental molds, fire residues, and other indoor pollutants. The evaluations were in response to potential illness or other indoor environmental concerns that were levied. The investigations have involved the characterization of ventilation conditions and methods, analysis of the illness patterns and characteristics, investigation of pollutant source(s) and pathway evaluation, and the development of appropriate remedial measures.

Re-constructed historical, occupational, asbestos exposures associated with direct and by-stander uses of construction and consumer product materials from a variety of products including: drywall and drywall accessories; floor coverings; exterior cement and stucco; and talc products. These evaluations were conducted in support of litigation.

Characterized worker exposures to a variety of airborne chemical and physical hazards including: welding fume, hexavalent chromium, silica, acid gasses, carbon monoxide, solvents, metal working fluids, isocyanates, and noise during a variety of industrial operations. Specific processes evaluated included welding and grinding, abrasive blasting, pickling, heat treating, carburization, machining, milling of both

stainless and carbon steel components used for the fabrication and assembly of nuclear submarine propulsion systems and missile launch tubes.

Directed a heavy metal surface contamination study in metal welding and fabrication shops for the evaluation of housekeeping practices. Included collection, evaluation, and assessment of over 200 surface samples to aid in the evaluation of current housekeeping practices in offices, breakrooms, locker rooms, and the manufacturing floor. Study involved communication of results and recommendations with key stakeholders including management, union representation, and employees.

Conducted numerous evaluations and made recommendations of engineering controls, administrative controls, personal protective equipment (PPE) for a variety of industrial processes. Activities included performance evaluations of industrial and local exhaust ventilation systems, assessment of the adequacy of respiratory protection and protective clothing, and the development of work practices and procedures.

Assessed work practices and developed and modified procedures to assure compliance with U.S. and California Occupational Safety and Health Administration regulations pertaining to industrial hygiene.

Developed, assessed, and modified health and safety procedures and performed qualitative and quantitative risk evaluations in the power generation, nuclear weapon manufacturing, heavy manufacturing, and automotive industries.

Directed the characterization and evaluation of worker exposures to explosive precursor materials, explosives, beryllium and other heavy metals during the synthesis, machining, handling, detonating, and cleanup of explosives during weapons research and development at a U.S. Department of Energy (DOE) weapons testing site in Tracy, California.

Evaluated exposures associated with several industrial chemical releases, including exposures to chlorine gas, sulfuric acid, beryllium, and asbestos.

Completed noise surveys for an agricultural facility and a pistol firing range and security training facility in Northern California. The surveys included the development and implementation of a sampling plan, interpretation of noise dosimetry results to support the prescription of appropriate personal protective equipment, and client compliance with DOE and/or OSHA requirements.

Assessed worker exposures to Coccidioides spores (exposure to fungal spores leads to Valley Fever) by conducting several soil disturbing activities in Tracy, California, an endemic area for the fungus. The evaluations involved review and application of available scientific literature; evaluating the severity of dust exposure associated with the soil disturbing activities; and prescription of appropriate engineering, administrative, and personal protective equipment controls. Work activities evaluated ranged from dust generation associated with pedestrian traffic to large excavations.

Worked with a construction client on the evaluation of worker exposures to respirable dust and crystalline silica during tunneling activities at a multi-million dollar tunneling project in California. Personal and area samples were collected to assure worker safety and compliance with Cal/OSHA requirements. Samples were collected during tunneling operations to characterize exposures to heavy equipment operators and laborers within the tunnel; establish areas of required respirator use; and evaluate the effectiveness of ventilation changes.

Conducted an exposure simulation to evaluate potential exposures to asbestos associated with the typical use of historical samples of talcum powder. A series of exposure simulations were conducted in controlled chambers constructed to mimic a bathroom setting. During the simulations, personal air samples were collected for volunteer subjects who had been asked to apply historical talcum powder product as they would at home.

Developed and implemented a sampling approach to characterize formaldehyde exposures to hair stylists

applying a series of professional keratin hair smoothing products in several commercial hair salons under typical and representative conditions.

Conducted a technical evaluation of potential human health and nuisance effects associated with emissions of hydrogen sulfide (H2S) gas in residential neighborhoods from a waste water treatment facility in Northern California.

Assisted clients with development of emergency preparedness plans in the event of catastrophic accidental releases of toxic gasses from neighboring facilities. Projects involve coordination with city agencies, clients, and contractors to meet mitigation requirements stipulated in building permits.

Involved in field monitoring duties on redevelopment projects, litigation cases and human exposure studies. Specific tasks include soil sampling, asphalt sampling, and house dust collection. Includes field experience with ambient air and sub-surface investigations.

Conducted pre-occupancy indoor air quality (IAQ) evaluations for US Green Building Council's Leadership in Energy and Environmental Design (LEED) IAQ credit purposes. Collected a wide range of samples required under LEED, analyzed laboratory reports, and summarized findings.

Managed numerous air toxics human health risk assessments under state programs including California's Air Toxics Hot Spots Program (AB2588) and California Environmental Quality Act (CEQA). Evaluations involved assessment of diesel and other hazardous pollutant emissions from large-scale sources including: rail yards, intermodal facilities, marine facilities and developed related risk communication approaches and presentation materials for community meetings.

Conducted several multi-pathway risk assessments at hazardous waste sites using risk-based target concentrations to identify chemicals of concern and areas requiring risk management decisions.

Performed numerous risk assessments under California's Proposition 65, including evaluation of consumer products, workplace exposures, and facility air emissions. Services included designing test protocols, performing exposure assessments, and critically evaluating No Significant Risk Levels (NSRLs) and Maximum Allowable Dose Levels (MADLs). Chemicals evaluated include benzene, cadmium, dioxins, PCBs, phthalates, and nickel.