

Exponent®
Engineering & Scientific Consulting

Alison Gauthier, M.S.P.H., CIH, CPPS

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Professional Profile

Ms. Alison Gauthier has over 14 years of scientific consulting experience in product stewardship, industrial hygiene, and exposure science. Her work focuses on assessing human health risks of consumer and industrial products throughout their life cycle – from raw materials sourcing to end-of-life disposal or recycling. She is both a Certified Industrial Hygienist (CIH) and Certified Professional Product Steward (CPPS) and applies her expertise in exposure estimation using measured, modeled, or simulated data to workplace, environmental, and consumer scenarios. She regularly works with stakeholders throughout the value chain on multidimensional projects evaluating chemical and biological agents, including asbestos, plasticizers, metals, pesticides, VOCs, and sensitizers. Her work supports corporate and consumer decision-making that is based on sound data-driven assessments of potential human health risks.

Ms. Gauthier earned a B.S. in Molecular Environmental Biology from UC Berkeley and a M.S.P.H. in Occupational and Environmental Hygiene from the Johns Hopkins School of Public Health. She serves on the editorial board of the Integrated Environmental Assessment & Management journal and the Product Stewardship Society Board of Directors.

Academic Credentials & Professional Honors

M.P.H., Public Health, Johns Hopkins University, 2016

B.S., Molecular Environmental Biology, University of California, Berkeley, 2010

AIHA Volunteer Groups Outstanding Project Team - Stewardship & Sustainability Whiteboard Team, 2020

Delta Omega Public Health Honor Society

National Institute for Occupational Safety and Health Traineeship - Industrial Hygiene, 2014-2016

American Industrial Hygiene Conference and Exposition Student Sponsorship, May 2015

AIHA Stewardship & Sustainability Committee Best Professional Poster at AIHce, May 21, 2013

Prior Experience

Managing Scientist, Benchmark Risk Group (2025)

Supervising Scientist to Managing Scientist, ToxStrategies, Inc. (2022-2025)

Senior Scientist to Managing Scientist, Exponent, Inc. (2015-2022)

Industrial Hygiene Intern, Northrop Grumman Corporation (2015)

Assistant Health Scientist to Senior Associate Health Scientist, Cardno ChemRisk (2010-2014)

Research Assistant, UC Berkeley Center for Occupational and Environmental Health (2010)

Professional Affiliations

American Industrial Hygiene Association

- Member (2011-current)

Stewardship & Sustainability Committee

- Member (2011-2024)

- Secretary (2019-2020)

- Vice Chair / Chair / Past Chair (2021-2023)

Product Stewardship Society (PSS)

- Member (2017-current), Board of Directors (2022-current)

Publications

Book Chapters

Hill D, Gauthier A, “Chapter 10: Product Design Principles.” Professional Practices of Product Stewardship. First Edition. Product Stewardship Society. Gauthier A, Posson M, Kalmes R. (2018). Considerations of 3D Printing Outside the Manufacturing Environment, in POWDERMET 2018 Conference Proceedings, Metal Powder Industries Federation, submitted manuscript.

Singhal A, Posson M, Kalmes R, Gauthier A, Lewis R, Schenk J, Goswami E, and Sheehan P. 2018. Risk assessment case studies: Proposition 65 risk assessment. In: Hart GA, Professional Practices of Product Stewardship, First Edition. Product Stewardship Society.

Peer-Reviewed Publications

Krevanko CF, Hernandez AM, Gauthier AM, Vahora MS, Lewis RC, Pierce JS. Potential influence of cancer history on mesothelioma incidence: An ecologic analysis in the U.S. population. Journal of Public Health 2025. In Press.

Gauthier A, Behymer W, Bare J, Kramer M, Barranco W, Longtin J, Borghoff S, Jaques A. Measurement of vinyl acetate monomer in consumer products and modeled estimates of consumer exposure. J Expo Sci Environ Epidemiol 2025.

Racz L, Gauthier A, Bare J, Heintz M, Feifarek D, Kennedy S, Panko J. Assessment of perfluorocarboxylic acids in fluorinated high-density polyethylene containers and estimation of potential non-cancer risks associated with anticipated use scenarios. Regul Toxicol Pharmacol 2024; 147:105560.

Lewis RC, Meeker JD, Basu N, Gauthier AM, Cantoral A, Mercado-García A, Watkins DJ. Urinary metal concentrations among mothers and children in a Mexico City birth cohort study. Int J Hyg Environ Health 2018; 221(4):609–615.

Perez AL, Gauthier AM, Ferracini T, Cowan DM, Kingsbury T, Panko J. The challenge of predicting problematic chemicals using a decision analysis tool: Triclosan as a case study. Integrat Environ Assess Manag 2017; 13(1):198–207.

Gauthier AM, Fung M, Panko J, Kingsbury T, Perez AL, Hitchcock K, Ferracini T, Sahmel J, Banducci A, Jacobsen M, Abelmann A, Shay E. Chemical assessment state of the science: Evaluation of 32 decision-support tools used to screen and prioritize chemicals. Integrat Environ Assess Manag 2015; 11(2):242–255.

Lam NL, Smith KR, Gauthier A, Bates MN. Kerosene: A review of household uses and their hazards in low- and middle-income countries. J Toxicol Environ Health, Part B 2012; 15(6):396–432.

Presentations & Technical Posters

Racz L, Gauthier A, Torres C, Panko J. Improving Data Reporting to Avoid TSCA Pitfalls: A Call for Engagement of Downstream Users. Poster presentation, ICPHSO 2025 Annual Meeting and Training Symposium. Orlando, FL. February, 2025.

Gauthier A, Bare J, Kramer M. Tools and tips for exposure assessment throughout the product development life cycle. Education session, PSX 2024, October 2024.

Gauthier A. Examining the human health impacts of carbon capture through life cycle impact assessment: A targeted literature review. Abstract 1.13P-Th-109, Society of Environmental Toxicology and Chemistry, 45th Annual Meeting, Fort Worth, TX, October 2024.

Vivanco SN, Dubrow S, Blessing M, Uhlman B, Gauthier A. Incorporating human and ecotoxicity impacts in LCIA: challenges and opportunities. Panel session presentation at the American Center for Life Cycle Assessment (ACLCA) Conference, Snowbird, UT, September 2024.

Costello B, Gauthier A, Harper P, Panko J. The convergence of ESG and Total Worker Health. Platform session at AIHce Exp 2023, Phoenix, AZ, May 2023.

Gauthier A, Dopart P, Freeman E. Strategies for risk prioritization of large product lines. Technical presentation at Product Stewardship 2020 Virtual Conference (PSX), September 2020.

Morris-Schaffer K, Gauthier A, Bogen K. Evaluating allergic contact dermatitis elicitation risk for organic residuals detected in consumer products. Poster presentation, Virtual Society of Toxicology Meeting, March 2020.

Gauthier A. 2019. Qualitative industrial hygiene exposure assessment at an auto manufacturing facility. Invited podium presentation at the Transplant Automotive Safety Forum, San Francisco, California, September 2019.

Gauthier A. 2018. Considerations of 3D printing outside the manufacturing environment. Technical presentation to POWDERMET Conference: http://ampm2018.org/powdermet-tech-sessions.asp, San Antonio, Texas, July 2018.

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

Gauthier A, Lewis R, Winegar E, Posson M, Singhal A, Sheehan P. Challenging exposure assessment assumptions: A volatile cleaning product case study. Podium presentation at the Product Stewardship 2017 Conference in Tampa, FL, November 2017.

Gauthier A, Lewis R, Bogen K, Singhal A, Sheehan P. Wearable technology biocompatibility: a unique opportunity in green chemistry and engineering. Poster presentation at the Industry Roundtable, Green Chemistry & Engineering Conference, Reston, VA, June 2017.

Singhal A, Bogen K, Lewis R, Gauthier A, Winegar E, and Sheehan P. 2017. A novel approach to estimating dermal contact with hand-applied cleaning solutions: a simulation study involving denatured alcohol. Poster presentation at Society of Toxicology Meeting, Baltimore, MD, March 2017.

Lewis R., Singhal A, Gauthier A, Kalmes R, and Sheehan P. 2016. Proposed methods for characterizing dermal exposure to BPA for purposes of Proposition 65. Poster presentation at Society for Risk Analysis Annual Meeting, San Diego, CA, December 2016.

Gauthier A, Lewis R, Kalmes R. Hand-to-mouth contact frequency among adults: review of the literature and recommendations for future studies. Poster presentation at the Society of Environmental Toxicology and Chemistry North America 37th Annual Meeting, Orlando, FL, 2016.

Singhal A, Posson M, Jones A, Lewis R, Gauthier A, Schenk J, Kalmes R, Sheehan P. Assessing risk for consumer products under California's Proposition 65 regulations. Poster presentation at SETAC North America 37th Annual Meeting, Orlando, FL, November 2016.

Gauthier A, Koehler K, McNamara J. Industrial hygiene at work: Developing and implementing a comprehensive exposure assessment strategy. Poster presentation at the American Industrial Hygiene Conference & Exposition (AIHce), Baltimore, MD, 2016.

Gauthier AM, Kingsbury T, Ferracini TV, Panko JM. Beyond the standards: comparing sustainability reports of consumer products companies. Poster presentation at the American Industrial Hygiene Conference & Exposition (AIHce) (session: Stewardship & Sustainability), Montreal, Quebec, 2013 (AIHA Stewardship & Sustainability Committee Best Professional Poster).

Project Experience

Product Stewardship

Performed a targeted literature review on the human health life cycle impacts of amine-based carbon capture technology. Compared results from numerous LCIA tools and platforms (e.g., TRACI, ReCiPe, SimaPro) and life cycle inventory databases (e.g., ecoinvent) to identify strengths and weaknesses in underlying assumptions.

Coordinated with stakeholders throughout the consumer wearable electronic device product supply chain to minimize risk of dermal sensitization and maximize biocompatibility. Assessed wearable electronics, including wristworn activity trackers and wristbands, AR/VR headsets, smart glasses, and wireless earbuds, for heavy metal and semi-volatile organic compound sensitizers. Exposure testing involved use

of laboratory-based leach, wipe, and simulated handling methods adapted from the EN-1811 reference method for nickel in jewelry, and the EN 16128 reference method for nickel in spectacle frames and sunglasses.

Developed testing protocol and risk evaluation parameters for dyed vegan leather-alternative material to minimize risk of dermal sensitization to users of the end product in apparel applications. Product testing involved sampling of distressed and non-distressed material using laboratory-based methods.

Designed large scale chamber study to evaluate exposures to VOC byproducts formed from commercial air purification system, including formaldehyde. Anticipated levels generated were very low and required additional method development to ensure a sufficiently low limit of detection.

Created custom ad hoc exposure calculator for a cleaning products company to evaluate consumer exposure to ingredients and byproducts with respect to Proposition 65 Safe Harbor Limits, and to prioritize potential product risk.

Carried out hundreds of exposure and risk assessments for ingredients in common household and consumer products, including residential pesticide products, for both adult and children receptors using ConsExpo and EPA residential Pesticide SOPs. Risk assessments included acute and chronic human health effects, carcinogenicity, reproductive/developmental toxicity, neurotoxicity, acute inhalation, dermal irritation and sensitization, and endocrine disruption. Led discussions related to communicating the science of these risk assessments to the general public through online messaging on the company's website.

Contributed general population and residential exposure assessment to multidisciplinary risk evaluation for EPA on specific siloxane compound using Crystal Ball probabilistic modeling software. Pathways assessed included both adult and child receptors of indoor/outdoor air, household consumer product exposure, drinking water, crops, fish, and breastmilk exposures.

Modeled a series of scenarios in the IHMOD 2.0 tool to estimate exposures of employees in a coffee roasting facility from a small-scale coffee roasting machine; compared scenario outcomes to Proposition 65 Safe Harbor Levels in support of product labeling and use instructions development.

Planned and oversaw a simulation study of worker exposure to asbestos from molded phenolic compound during drilling activities by a certified asbestos professional. Collected ambient and personal air samples to characterize potential asbestos fiber exposure.

Designed and implemented proactive product stewardship testing plan for evaluating exposures to titanium dioxide and silica in paints and primers. Study involved application of consumer and commercial paint products per use instructions, and sampling during sanding activities. Measured exposures were compared with relevant occupational and consumer exposure limits.

Performed numerous screening-level exposure and risk calculations for chemicals in consumer products, including formaldehyde in cosmetics, methanol in residential floor coating, and trace benzene in personal-care aerosol products to aid product manufacturers' decision making on labeling, use instructions, product design, and human health risk.

Performed numerous exposure and risk assessments under California's Proposition 65, including evaluation of consumer and worker exposures to a variety of compounds, such as acrylamide, nickel, formaldehyde, benzene, bisphenol-A (BPA), and phthalates.

Created testing protocol to measure levels of acrylamide in roasted nuts under a range of temperature and treatment conditions to assist manufacturer in reducing levels of acrylamide in nuts and associated snack products.

Led a comparative analysis of publicly available chemical hazard and exposure assessment tools to characterize the strengths and weaknesses of each, and to describe the ability of each tool to generate a risk profile for a chemical or product.

Human Health Risk Assessment

Third-party reviewer for coal combustion residual human health and environmental site risk assessments for regulatory agency.

Evaluated the potential human health risk associated with trace PFAS in fluorinated containers in the context of TSCA. This included modeling exposures based on a variety of manufacturing and downstream users' conditions of use.

Managed litigation matters related to foodborne illness and shiga toxin-producing E. coli (O157:H7) in cilantro, romaine lettuce, and white flour. Project included review of food and environmental testing data, epidemiologic evidence, and local and state government health inspection reports, and calculation of attack rates.

Reconstructed and evaluated historical occupational and non-occupational asbestos exposures associated with various industries and activities, including shipbuilding, construction, automotive repair work, and products such as pipe and wall insulation, drywall and joint compound, heavy equipment and automotive friction materials, and jewelry and ceramic products.

Reconstructed and evaluated historical non-occupational talc exposures from personal care product use.

Designed and carried out personal and area sampling of methanol and ethanol from denatured alcohol during simulated floor-laying activities. Real-time and time-weighted samples were collected and compared to identify complete exposure profile and peak exposures.

Industrial Hygiene

Compiled and reviewed all proposed and final Existing Chemical Exposure Limits (ECEL) from US EPA under TSCA for feasibility based on currently available sampling and analytical methodology. Summarized limitations and potential barriers to compliance with ECEL values.

Developed and implemented qualitative exposure assessment methods in aerospace and automotive manufacturing settings and identified and prioritized high-risk similar exposure groups in facilities for further monitoring and control activities.

Experienced in quantitative industrial hygiene evaluations of indoor air in residential and industrial settings; assessed mold and moisture using infrared imaging, moisture meter, tape and swab samples, bio-pump cassette air sampling, and visual inspection.

Investigated root cause of potential legionella contamination in hospital disinfection system using extensive water sampling methods throughout hospital property.

Extensive field experience performing wildfire impact assessments, sampling for soot, ash, and char in industrial and residential settings, using various methods, such as tape lift and MicroVac sampling.

Designed investigation, measurement, and sampling strategies, and evaluated sampling data to assess evidence of vapor intrusion in indoor and parking garage environments using Summa canister collection methods.

Additional Education & Training

Risk Sciences and Public Policy Certificate, Johns Hopkins Bloomberg School of Public Health (2015)

Certificate in Green Chemistry, Awarded with Distinction, University of California, Berkeley, Extension (2014)

Editorships & Editorial Review Boards

Integrated Environmental Assessment & Management, Society of Environmental Toxicology and Chemistry (SETAC) Editorial Board (2020-current)