Mandie Kramer, M.S., CIH, CSP

SENIOR SCIENTIST I

CONTACT INFORMATION

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PROFESSIONAL PROFILE

Ms. Mandie Kramer is a Certified Industrial Hygienist and Certified Safety Professional in ToxStrategies' Exposure Sciences practice. She holds a master's degree in Industrial Hygiene and practices in the Twin Cities area, Minnesota. Ms. Kramer has ten years of experience in product stewardship, industrial hygiene, quantitative exposure modeling, and environmental fate and transport assessments. She specializes in assessing risks associated with occupational, consumer, and general population exposures to a variety of chemicals and products. Her expertise also includes air dispersion modeling to predict community exposures from industrial facilities and excavation sites. She routinely assists clients with exposure assessments for EPA's Toxic Substances Control Act (TSCA) and California's Proposition 65.

Ms. Kramer also has extensive experience in the industry sector, with a background in exposure science, industrial hygiene, statistics, and product stewardship. She has both research and hands-on experience with exposure modeling, dermal exposure assessments, air/noise/dermal exposure monitoring, and ergonomic assessments at manufacturing facilities using a variety of processes with potential exposures to a wide range of substances. Her data-driven product exposure experience includes product-use simulation studies, exposure modeling, and regulatory compliance.

Ms. Kramer has broad leadership, mentoring, and communication experience, including developing an extensive webinar series on air and noise monitoring, targeting onsite environmental health and safety staff. She has led multiple industrial hygiene initiatives on such topics as confined-space entry, heat stress, COVID-19 exposure modeling, and dermal exposure assessments. She has also served in a product stewardship role, supporting a diverse portfolio of consumer products, including cleaning solutions and tools and material-protective products. In her career in industry, she has received multiple internal professional awards, including four peer-nominated team awards for industrial hygiene training, pandemic support, and product assessment.

EDUCATION AND DEGREES EARNED

2020 M.S., Industrial Hygiene, University of Minnesota, Twin Cities

2015 B.S., Environmental Health Sciences, University of North Carolina, Chapel Hill

CERTIFICATIONS

Certified Industrial Hygienist (CIH)
Board for Global EHS Credentialing, #12471

Certified Safety Professional (CSP)
Board of Certified Safety Professionals, CSP-41888

Registered Specialist: Exposure Decision Analysis
American Industrial Hygiene Association, registry link

PROFESSIONAL MEMBERSHIPS AND HONORS

2024–Present Member, Product Stewardship Society

- Member, Education Committee

2019–Present Member, American Industrial Hygiene Association (AIHA)

- Recipient, 2023 AIHA Kusnetz Award for Outstanding Achievement by an Early Career Professional
- Member, Exposure Assessment Strategies Committee & Stewardship and Sustainability Committee
- AIHA Future Leaders Institute (FLI) Class of 2022
- President, AIHA-Upper Midwest Local Section (June 2021 – June 2022); President-Elect (June 2020 – May 2021)
- Chair, AIHA/PSS Product Exposure Modeling Committee (May 2024 – Present)

SELECTED PROFESSIONAL EXPERIENCE

Industrial Hygiene/Occupational Exposure and Risk Assessment

Developed written program and training to properly control hexavalent chromium exposures during the repair of turbines and generators.

Assisted with the review of 40+ industrial hygiene studies for multiple chemicals such as styrene, ethylbenzene, and phthalic anhydride to support the TSCA Risk evaluation process.

Assisted in developing an exposure model to estimate chemical exposures from a hazardous leakage incident on a roadway.

Conducted analysis and developed white paper on the feasibility of the analytical sampling methods for the chemicals undergoing EPA's TSCA Risk evaluation process to detect the chemical at and below the proposed and final Existing Chemical Exposure Limits (ECELs).

Developed white paper on the standard engineering, administrative, and personal protective equipment (PPE) controls typically used during 1,3-butadiene manufacturing in the United States. Compiled, ran statistics, and provided recommendations to the EPA on multiple chemicals undergoing TSCA risk evaluation.

Comprehensive industrial hygiene experience providing support for global manufacturing facilities, including exposure assessment, ventilation design, program development, heat stress controls, and appropriate personal protective equipment.

Strong experience and professional interest with exposure modeling tools, including IH Mod, IH Skin Perm, ConsExpo, TEAS, and EPA CEM.

Designed and led multiple exposure reconstruction and original research studies, including the use of portable room air purifiers as local exhaust ventilation for office workers during the COVID-19 pandemic.

Extensive experience completing quantitative exposure assessments at manufacturing facilities using passive and active sampling techniques.

Developed and led a successful webinar series for new environmental safety and health personnel to learn air/noise exposure assessment and sampling procedures. As a supplement to the online training, co-hosted an in-person 2-day workshop with 45 participants.

Led the development of a multiple exposure assessment tools, including a dermal exposure assessment tool to interpret wipe sampling data and a welding exposure assessment tool to help determine contaminants and sampling media for different types of welding.

Environmental Health and Safety

Developed and completed aerosol transmission modeling using TEAS software to minimize risk of aerosol transmission at all global manufacturing facilities. In addition, developed the standard work based on the aerosol transmission modeling and led the development of standard work for using room air purifiers as a control for COVID-19.

Extensive experience creating global safety trainings for confined space and heat stress.

Led a global team to develop training, guidance, and tools to proactively address non-routine tasks.

Product Stewardship/Consumer Exposure and Risk Assessment

Performed analysis and developed white paper on the amount by mass of PFAS currently in-commerce and the respective PFAS-containing products.

Managed and conducted dermal exposure modeling to determine consumer exposures to a chemical to support the TSCA Risk Evaluation process.

Performed exposure modeling using ConsExpo and EPA's Consumer Exposure Model to determine exposures to vinyl acetate in consumer products. The analysis was published in the Journal of Exposure Science and Environmental Epidemiology.

Developed laboratory protocol and performed exposure assessment for evaluation of vinyl acetate in a consumer product under California's Proposition 65.

Provided expert guidance on regulations and standards necessary to support the development of a new bio-based heat transfer fluid and de-icing fluid in the United States.

Served as a product steward for a diverse set of national consumer product brands—responsible for life-cycle management of all products that totaled over $10M in sales. As a product steward, led regulatory support to understand new regulations and potential impacts to the product line. Also served as subject-matter expert on sustainability of retail chemicals by creating a sustainability tool for use during product development. A large part of this role consisted of ensuring multiple safe and compliant substitutions of chemicals of concern out of consumer product brands (peer nominated for an individual and team internal technical award). Demonstrated technical communication and influencing skills from experience explaining complex regulations and chemical hazards to product developers, marketing staff, and management.

Air Quality, Air Dispersion, and Environmental Fate & Transport Modeling

Managed exposure assessment and published manuscript to determine general population ambient air exposures to acrylonitrile in the United States. The manuscript was published in the Journal of Air Waste Management Association.

Managed air dispersion modeling to determine community exposures from multiple metal forging facilities.

Assisted in the development of an air dispersion screening model to determine community exposures from a medical sterilization facility.

Assisted in the development of novel exposure assessment approaches to determine exposures to the use of recycled tires in the environment.

Assisted in the analysis and development of a manuscript that reviewed the benefits and limitations of several different analytical techniques for micro and nano-plastics.

Assisted in project that evaluated the contribution of several sources of metals and hazardous air pollutants at a metal forging facility. The work included using the AP-42 Emission Factor Chapters to estimate emissions of various sources such as welding and the evaluation of source test data.

Assisted in the development of ambient air monitor concentration objectives (MCOs) for benzene, ethylbenzene, benzo(a)pyrene, and naphthalene for multiple facilities. MCOs represent the concentration in which nearby community members may be safely exposed during excavation and remediation of former manufactured gas plant properties.

COMPUTER AND MODELING SKILLS

AERMOD, IHMod, IHSkinPerm, ConsExpo, Consumer Exposure Model (CEM), ECETOC TRA, ChemSTEER, TEAS, AirToxScreen, HARP, IEUBK, ProUCL, R, Probabilistic assessments (Monte Carlo), and statistical techniques for censored data (Kaplan-Meier, MLE, log-probit)

MANUSCRIPTS

Gauthier A, Behymer W, Bare J, **Kramer M**, Barranco WT, Longtin JP, Borghoff S, Jaques A. 2025. Measurement of vinyl acetate monomer in consumer products and modeled estimates of consumer exposure. J Exp Sci Environ Epidemiol 35(6):933-942; doi: 10.1038/s41370-025-00786-y. PMID: 40533479.

Kramer A, Vivanco S, Bare J, Panko J. 2025. Analysis of EPA air toxics monitoring data and tools for use in general population exposure assessments: Using acrylonitrile as a case study. J Air Waste Manag Assoc 75(3):181-197; doi: 10.1080/10962247.2024.2438793. PMID: 39660961.

DuBois CK, Murphy MJ, **Kramer AJ**, Quam JD, Fox AR, Oberlin TY, Logan PW. 2022. Use of portable air purifiers and local exhaust ventilation during COVID-19. J Occup Environ Hyg 19(5):310–317; doi: 10.1080/15459624.2022.2053141. PMID: 35290164.

Oberlin TJ, DuBois CK, Sheppard, M, Quam JD, **Kramer AJ**, Logan PW, Murphy MJ. 2022. COVID-19 aerosol transmission modeling in support of company HVAC guideline. J Occup Environ Hyg 19(5):327–334; doi: 10.1080/15459624.2022.2058701. PMID: 35349386.

Kramer AJ, Rattanavaraha W, Zhang Z, Gold A, Surratt JD, Lin Y-H. 2016. Assessing the oxidative potential of isoprene-derived epoxides and secondary organic aerosol. Atmos Environ 130(April):211–218; doi: 10.1016/j.atmosenv.2015.10.018.

Johnston JE, **Kramer AJ**, MacDonald Gibson J. 2015. Community perspectives on the risk of indoor air pollution arising from contaminated groundwater. New Solut 25(1):59–77; doi: 10.1177/1048291115569026. PMID: 25815742.

ABSTRACTS AND PRESENTATIONS

Kramer M, Torres CV. Feasibility assessment of EPA's OEVs/ECELs. Research Roundup Presentation C1b, AIHA Connect 2026, New Orleans, LA, June 1, 2026.

Torres C, **Kramer A**, Racz LA, Vivanco S, Panko J. Anticipating number of days that exceed OSHA proposed heat triggers. Abstract 1501, Poster Session 3, AIHA Connect 2026, New Orleans, LA, June 3, 2026.

Franke K, Bare JL, Torres C, **Kramer A**, Zou Y, Redman A, Cancelli AM, Therkorn J, Kim D, Panko J. Consistent and complete reporting of analytical methodology in micro- and nanoplastics in biota research improves confidence in and utility of data, Abstract 4.21.P-Th-053, Society of Environmental Toxicology and Chemistry (SETAC) North America 46th Annual Meeting, Portland, OR, November 2025.

Kramer M. AIHA exposure models toolbox. Virtual presentation, Occupational Hygiene Association of Ontario (OHAO) Fall Conference, Toronto, ON, Canada, October 2025.

Kramer AJ, Dopart P, DeLeo, P. What's In the Toolbox? A review of exposure modeling resources for practitioners. Pop-up session, AIHA CONNECT conference, Kansas City, MO, May 2025.

Craig B, **Kramer AJ**. Practical case studies in exposure modeling. Education session at American Industrial Hygiene Association AIHA CONNECT conference, Columbus, OH, May 2024.

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

Maskrey J, **Kramer AJ**, Badger D (speakers). Cracking the code of dermal exposure modeling. Education session at American Industrial Hygiene Association AIHA CONNECT conference, Columbus, OH, May 2024.

Kramer AJ. Introduction to inhalation exposure modeling. Technical presentation at AIHA Upper Midwest Local Section Professional Development Conference, Roseville, MN, November 2023.

Dubois CK, Dunn K, Neu D, **Kramer AJ**, Logan P, Wong N (speakers). Evaluation, operation, and maintenance of industrial ventilation systems. Professional development course at American Industrial Hygiene Association AIHce conference, Phoenix, AZ, May 2023.

Kramer AJ. Lessons in leadership—Arrival fallacy and how to combat it in your personal and professional life. Presentation at American Industrial Hygiene Association AIHce conference, Phoenix, AZ, May 2023.

Kramer AJ, Maskrey J. Cracking the code of inhalation exposure modeling. Education session at American Industrial Hygiene Association AIHce conference, Phoenix, AZ, May 2023.

Walton J, **Kramer AJ**, Persky J, Deeds, D, Hellerstein J (speakers). Fundamentals and value of modeling product exposures. Workshop / online seminar of the Product Stewardship Society, November 2022.

ARTICLES

Kramer M, Walton J, Jahn S. 2025. An updated toolbox for modeling exposures. The Synergist. October.

McNeal B, Feng L, O'Reilly M, **Kramer AJ**, Allen L. 2024. Connecting OEHS and sustainability. The Synergist. June.

McNeal B, Feng L, O'Reilly M, **Kramer AJ**, Allen L. 2024. Sustainability at AIHA CONNECT 2024. The Synergist. April.