Lauren Gloekler, MEM

Current Position
Senior Health Scientist

Discipline Areas
> Exposure Assessment
> Risk Assessment
> Toxicology
> Occupational Health & Safety

Years' Experience
8 Years

Joined Cardno
2013

Education
> MEM, Ecotoxicology and Environmental Health, Duke University, 2013
> BS, Biology, University of Texas Arlington, 2008

Summary of Experience

Lauren Gloekler is a Senior Health Scientist with Cardno ChemRisk with over 8 years of experience in toxicology, occupational health and safety, and human health risk assessment. She completed her Masters in Environmental Management (MEM) in Ecotoxicology and Environmental Health, with a specialization in Environmental Chemistry, from Duke University in 2013. She also completed a Bachelor of Science in Biology, with a minor in Chemistry, from University of Texas Arlington. Ms. Gloekler's primary academic training includes environmental chemistry, chemical fate and transport, environmental health, risk assessment, and toxicology. In her current position, Ms. Gloekler manages litigation related projects for various clients, conducts comprehensive literature reviews, performs quantitative exposure assessments, and provides support for regulatory dermal and inhalation exposure assessments. She has significant experience designing and conducting studies which quantify potential chemical exposures from consumer products, and potential human health risks from dermal, inhalation, or oral exposure routes.

Significant Projects

Litigation Support

Provides litigation support and case management in occupational exposure cases involving potential exposures resulting from alleged exposure to asbestos from working with gaskets, packing, friction products, refractory, vermiculite, and products associated with boilers. Regularly performs literature reviews related to occupational and non-occupational exposures to asbestos across a variety of workplace and product usage scenarios. Compiles and interprets literature and case materials in preparation of expert testimony and client reports.

Review and critique relevant literature and epidemiology studies regarding asbestos exposure, including prevalence of mesothelioma and/or lung cancer in occupational cohorts, the association between asbestos exposure and pericardial mesothelioma and colon cancer, lung cancer prevalence in never smokers, as well as the latency period between asbestos exposure and development of mesothelioma. Review corporate documents related to supply chain processes, industrial hygiene data, health and safety practices, and state-of-the-science knowledge regarding the production and use of asbestos-containing consumer products.

Provided general litigation support to testifying expert witnesses for cases related to occupational exposure to various compounds including crystalline silica, talc, diacetyl, p-toluenesulphonic acid, propan-2-ol, and sulphuric acid. Provided litigation support in cases regarding contaminated site exposures, including potential human and environmental exposure to constituents found in coal ash.

Reviewed and evaluated literature on the comparison of indoor and outdoor concentrations, as well as in-vehicle concentrations, of several chemicals resulting from a refinery fire, including particulate matter, VOCs, carbonyls, and hydrocarbons. Compared residential and in-vehicle concentrations to modeled data and regulatory guidance values.

Occupational Health and Safety and Industrial Hygiene

Conducted an exposure assessment of coffee processing facility workers during roasting, grinding, and packaging of product. Collected full-shift and task-based personal air samples for diacetyl and carbon monoxide.

Conducted an exposure assessment of embalmers during embalming processes. Collected air exchange measurements, and full-shift and task-based personal badge samples for formaldehyde.

Provided support and developed comprehensive COVID-19 prevention plans for various television and film productions.

Regulatory Risk Assessment and Dermal Exposure Assessment

TSCA Occupational Dermal Exposure Assessment

Supporting two consortia of companies in the design and conduct of method validation and occupational dermal wipe sampling campaigns at numerous facilities across the United States; results will be provided in a report for submission to EPA.

TSCA Risk Evaluations

Developed comments and recommendations regarding the EPA Risk Evaluations for carbon tetrachloride, trichloroethylene, and perchloroethylene. Assisted with performing dermal exposure modeling of halogenated solvents to estimate occupational exposures during various occupational scenarios. Specifically, reviewed U.S. EPA methodology for model occupational dermal exposures, and used IHSkinPerm to model the dermal dose for different occupational tasks and exposure durations.

Occupational Dermal Exposure Monitoring

Supporting a working group in the providing guidance for designing and conducting of method validation and occupational dermal wipe sampling campaigns. Specifically, performing research and documentation of existing dermal exposure assessment resources and methods, development of a decision framework for dermal monitoring and

data collection strategies, and development of templates for data collection and analytical methods.

Toxicology

Assisted with updating internal permissible exposure limit (IPEL) documentation for four chemicals for an industrial client. Reviewed relevant toxicological literature related to each chemical and summarized information with respect to acute, subacute and chronic oral, inhalation, and dermal exposures, developmental and reproductive toxicity, genetic toxicity, skin irritation, eye irritation, and skin sensitization. Determined a recommended IPEL based on the toxicological literature and application of adjustment factors.

Investigated the health effects, toxicology, and the health risks associated with exposure to a variety of known and potential human carcinogens including acrylamide, vinyl chloride, aflatoxin, arsenic, alcohol, benzo (a) pyrene, nitrosamines, and radiation.

E-cigarette Toxicology

Assisted with performing a meta-analysis of in-vitro and in-vivo studies to assess the toxicity of e-cigarette liquids and e-cigarette aerosols. Performed toxicology-related research tasks, including preparation of toxicological profiles, for various electronic cigarette clients in preparation of premarket tobacco application submissions to the FDA.

Simulation Studies and Consumer Products Studies

Designed and conducted a simulation study to characterize hand-to-mouth transfer efficiency of flame retardants from consumer infant products. Conducted bulk sampling of consumer products and dermal wipe samples following product handling. Further, potential for hand-to-mouth transfer was also studied.

Performed a comprehensive survey of children’s hand sanitizers. Conducted analytical testing of hand sanitizers for organic impurities and ethanol content. Performed a risk assessment to determine potential adverse effects associated with ingestion or dermal absorption of hand sanitizers in adult and child consumers.

Assisted with performing a risk assessment of inorganic mercury and renal toxicity associated with the application of Hg-containing skin lightening products.

Conducted a study to evaluate the presence of PFAS in dental night guards and whitening trays. Performed a screening-level exposure assessment to evaluate how consumer usage contributes to oral exposure of PFAS, and any potential adverse health risks.

Graduate Research & Projects

Conducted research in Shantou, China during a summer internship in Hong Kong as part of Master's Project/Thesis. Quantified levels of exposure to flame retardants in China by collecting dermal wipe and dust samples from Chinese students. Performed Soxhlet extraction and analysis using GC/MS techniques. Investigated relationship between exposure levels and behavioral and lifestyle variables.

Performed a risk assessment in a group project examining the human health and ecological risk of arsenic and selenium exposure associated with a modeled coal ash spill. Examined the human health risk of inorganic arsenic and selenium.

Certifications

- Adult and Child CPR/First Aid/AED Certified, 2019 to present
- Certification for the Safe Management of Productions, 2020

Professional Honors/Awards

- NSOE International Internship Award, (Duke University, Nicholas School of the Environment), 2012
- Dean's Award for Academic Achievement (University of Texas, Arlington), 2004
- Five-Year Service Award, Cardno, 2018
- Society of Toxicology Risk Assessment Specialty Section (RASS) – Top Ten Abstracts of 2022
- Society of Toxicology Exposure Specialty Section – Best Abstract Award 2022

Membership and Service to Professional Societies

- Society of Toxicology (SOT), Member, 2013 to Present
  - Southern California Regional Chapter, 2013 to Present
- American Industrial Hygiene Association (AIHA), Member, 2020-present

Publications

Peer-Reviewed Papers

- Gloekler, L., C. Barlow, B. Tvermoes, M. LaGuardia, J. Sahmel. A Pilot Study to Characterize Hand-To-Mouth Transfer Efficiency of Organophosphate Flame Retardants Identified in Infant Products. Human and Ecological Risk Assessment: An International Journal. 2021. DOI:10.1080/10807039.2021.1989662.

Conference Abstracts – Poster Presentations

- Gloekler, L, EC Shay, N Schmidt, N Haghighat, JM Panko, DM Cowan and DJ Paustenbach. 2016. Flame-Retardants in Upholstered Furnishings: An Assessment of Health Risk and Fire-Related Deaths in the Era of California

Technical Bulletin (TB-117). Poster Presentation at 55th Society of Toxicology Annual Meeting. (Accepted). March 13-17, 2016. New Orleans, Louisiana.

> Gloekler, L, CA Barlow, B Tvermoes, MJ La Guardia, and J Sahmel. 2018. Characterization of Flame Retardants in Baby Products and the Evaluation of Dermal Loading and Hand-to-Mouth Transfer Efficiency. Poster presentation at the 57th Annual Meeting and Society of Toxicology (SOT) Meeting. (Accepted). March 11-15, 2018. San Antonio, Texas.

> Gloekler, L., N. Binczewski, S. More, L. Liang, M. Hoang, A. Madl. 2020. Volatile Organic Compounds Measured in US Indoor Residential Air from Smoking and Nonsmoking Homes and Implications for Public Health. Poster Presentation at 59th Society of Toxicology Annual Meeting. (Accepted). March 16-19, 2020. Anaheim, California.

> Gloekler, L., N. Bincewski, E. De Gandiaga, K. Gibbs, J. Kozal, A. Massarsky, M. Vincent, R. Zisook, G.S. Dotson, and S. Gaffney. 2022. Evaluation of the safety and efficacy of children's hand sanitizers available during the COVID-19 pandemic. Poster presentation P664 at the Society of Toxicology (SOT) Annual Meeting & ToxExpo, San Diego, CA; March 27-31, 2022. *Toxicologist* 186(S1):287. Abstract 3973.

> Hamaji, C., C. Park, L. Gloekler, R. Zisook, G.S. Dotson, P. Scott, K. Unice, and S. Gaffney. 2022. A risk assessment of inorganic mercury renal toxicity from application of skin lightening products from multiple countries: An update. Poster presentation P563 at the Society of Toxicology (SOT) Annual Meeting & ToxExpo, San Diego, CA; March 27-31, 2022. *Toxicologist* 186(S1):267. Abstract 3886.

> Kozal, J.S., M.J. Vincent, L.E. Gloekler, E.J. de Gandiaga, A. Massarsky, R.E. Zisook, N.R. Binczewski, K.E. Gibbs, S.H. Gaffney, and G.S. Dotson. Risk assessment of organic impurities detected in hand sanitizers marketed to children during the COVID-19 pandemic. Poster presentation P530 at the Society of Toxicology (SOT) Annual Meeting & ToxExpo, San Diego, CA; March 27-31, 2022. *Toxicologist* 186(S1):150. Abstract 3341.

> Massarsky, A., J.A. Parker, L. Gloekler, M.T. Donnell, R. Binczewski, J.S. Kozal, T. McKnight, A. Patterson, and M.L. Kreider. 2022. Assessing potential human exposure to PFAs from leave-in dental products. Poster presentation P216 at the Society of Toxicology (SOT) Annual Meeting & ToxExpo, San Diego, CA; March 27-31, 2022. *Toxicologist* 186(S1):100. Abstract 3112.

Presentations

> Gloekler, L.E. 2013. Examining Predictors of Exposure to Polybrominated Diphenyl Ethers (PBDEs) Among Chinese University Students (Masters Project Symposium). Millennium Hotel, Durham, NC.