Heather Reddick Schaefer, DrPH

SUPERVISING SCIENTIST

CONTACT INFORMATION

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PROFESSIONAL PROFILE

Dr. Heather Schaefer is a supervising scientist in ToxStrategies' Health Sciences practice. She has over 15 years of extensive public health experience in multiple disciplines, including translational science, risk assessment, performing systematic reviews, deriving toxicological reference values, and conducting scientific analyses. She has worked with diverse groups throughout her career, including government (federal and state), academic, and non-governmental organizations. At ToxStrategies, her work revolves around providing clients in the evidence-based toxicology and food space with epidemiological and toxicological support related to project development, safety assessments, and systematic reviews. Dr. Schaefer's specialties include delivering practical, meaningful, scientifically rigorous, and cohesive recommendations to clients and stakeholders.

Prior to joining ToxStrategies, Dr. Schaefer served as a toxicologist for the United States Food and Drug Administration (FDA)'s Human Foods Program, Hazard Characterization and Assessment Branch, where she conducted human health assessments on contaminants (e.g., industrial, metals, pesticides) throughout the food safety continuum. She also provided technical support for all aspects of risk assessment, including hazard characterization, exposure assessment, dose-response analyses, and risk characterization for heavy metals (e.g., cadmium). In addition, prior to the FDA, she was a toxicologist at the Texas Commission on Environmental Quality (TCEQ) where she co-authored systematic review guidelines for deriving toxicity factors. Her expertise encompasses utilizing evidence-based methods such as systematic reviews for chemical risk assessment to improve research quality, validity, and reliability.

Dr. Schaefer earned her Doctor of Public Health from Texas A&M University in 2015. She has presented at scientific conferences including the Society of Toxicology, and serves as co-chair of the Scientific Advisory Committee for the Evidence-Based Toxicology Collaborative. She has also been an invited reviewer for various scientific journals, and serves on the editorial board for the *Journal of Food Protection*.

EDUCATION AND DEGREES EARNED

2015	DrPH, Epidemiology and Environmental Health, Texas A&M Health University, College Station, TX
2007	M.P.H., Environmental Health, Texas A&M Health University, College Station, TX
1999	B.A., Sociology (Biology minor), University of Louisiana at Lafayette, Lafayette, LA

PROFESSIONAL ASSOCIATIONS

2021-Present	Evidence Based Toxicology Collaboration
2012-Present	Society of Toxicology

SELECTED HONORS/AWARDS

2024	FDA Award—Outstanding Service Award, Cadmium in Leafy Greens Assessment Team
2023	Delta Omega, Alpha Tau Chapter
2022	FDA Center for Food Safety and Applied Nutrition (CFSAN) Award—Team Collaboration
2022	FDA Award, Cadmium Dose Response Group
2020	FDA Award—Exceptional Achievement Award
2019	CFSAN Award—Teamwork/Collegiality Award
2015	Texas A&M Department of Environmental & Occupational Health Student Achievement Award

SELECTED PROFESSIONAL DEVELOPMENT AND SERVICE

2020-2024	FDA Cadmium Dose-Response Workgroup
2022-2024	FDA Center for Food Safety and Applied Nutrition People Committee
2019	Food Toxicology (MIAEH 735), University of Maryland, College Park, MD
2018	Epidemiology for Risk Analysis, Joint Institute for Food Safety and Applied Nutrition (JIFSAN), University of Maryland, College Park, MD
2016	Dose-Response Assessment Bootcamp, Toxicology Excellence for Risk Assessment, Online
2015	Geographic Information Systems (GIS) Intermediate Course, TNRIS, Austin, TX

PEER-REVIEWED PUBLICATIONS

Schaefer HR, Vincent MJ, Burns CJ, Lange SS. 2025. Increasing the utility of epidemiologic studies as key evidence in chemical risk assessment. Toxicol Sci 203(2):166-170; doi: 10.1093/toxsci/kfae134. PMID: 39657235.

Flannery BM, Turley AE, Anyangwe N, Mattia A, Whiteside C, Hermansky S, **Schaefer HR**, Tyler T, Fitzpatrick SC. 2023. Retrospective analysis of dog study data from food and color additive petitions. Regul Toxicol Pharmacol 145(Dec):105523; doi: 10.1016/j.yrtph.2023.105523. PMID: 37956767.

Schaefer HR, Flannery BM, Crosby LM, Pouillot R, Farakos SMS, Van Doren JM, Dennis S, Fitzpatrick S, Middleton K. 2023. Reassessment of the cadmium toxicological reference value for use in human health assessments of foods. Regul Toxicol Pharmacol 144(Oct):105487; doi: 10.1016/j.yrtph.2023.105487. PMID: 37640100.

Flannery BM, **Schaefer HR**, Middleton KB. 2022. A scoping review of infant and children health effects associated with cadmium exposure. Regul Toxicol Pharmacol 131(Jun):105155; doi: 10.1016/j.yrtph.2022.105155. PMID: 35257832.

Pouillot R, Farakos SS, Spungen J, **Schaefer HR**, Flannery BM, Van Doren JM. 2022. Cadmium physiologically based pharmacokinetic (PBPK) models for forward and reverse dosimetry: Review, evaluation, and adaptation to the U.S. population. Toxicol Lett 367(Aug):67-75; doi: 10.1016/j.toxlet.2022.07.812. PMID: 35901988. Corrigendum: Toxicol Lett 2023 377(March):14-15; doi: 10.1016/j.toxlet.2023.01.011.

Schaefer HR, Flannery BM, Crosby L, Jones-Dominic OE, Punzalan C, Middleton K. 2022. A systematic review of adverse health effects associated with oral cadmium exposure. Regul Toxicol Pharmacol 134(Oct):105243; doi: 10.1016/j.yrtph.2022.105243. PMID: 35981600.

Schaefer HR, Dennis S, Fitzpatrick S. 2020. Cadmium: Mitigation strategies to reduce dietary exposure. J Food Sci 85(2):260-267; doi: 10.1111/1750-3841.14997. PMID: 31957884.

Schaefer HR, Myers, JL. 2017. Development of an inhalation unit risk factor for ethylene dibromide. Inhal Toxicol 29(7):304-309; doi: 10.1080/08958378.2017.1369603. PMID: 28891353.

Schaefer HR, Myers, JL. 2017. Guidelines for performing systematic reviews in the development of toxicity factors. Regul Toxicol Pharmacol 91(Dec):124-141; doi: 10.1016/j.yrtph.2017.10.008. PMID: 29080853.

REPORTS AND DOCUMENTS

Schaefer HR, Ethridge S, Myers, JL. 2017. Development Support Document for Ethylene Dibromide. CAS Registry No.: 106-93-4. Final. November 29. Prepared for Texas Commission on Environmental Quality (TCEQ). Available from: https://www.tceq.texas.gov/downloads/toxicology/dsd/final/edb.pdf.

Toxicology Division, Texas Commission on Environmental Quality. 2017. White Paper: TCEQ Guidelines for Systematic Review and Evidence Integration. December 20. Prepared for Texas Commission on Environmental Quality (TCEQ). Available from: https://www.tceq.texas.gov/downloads/toxicology/dsd/position-white-papers/srguidelines.pdf.

Myers JL, **Reddick H**. 2016. Development Support Document for Ethylene Glycol. CAS Registry No.: 107-21-1. Final. February. Prepared for Texas Commission on Environmental Quality (TCEQ). Available from: https://www.tceq.texas.gov/downloads/toxicology/dsd/final/eg.pdf.

INVITED PRESENTATIONS AND POSTERS

Schaefer H. An introduction to evidence integration. Abstract 1333, Society of Toxicology 64th Annual Meeting, Orlando, FL, 2025.

Schaefer H. Cadmium–Initiatives to reduce dietary exposure. Society for Risk Analysis Annual Meeting, Austin, TX, 2024.

Schaefer H. Capturing unknowns: Increasing utility of epidemiologic studies as key evidence in chemical risk assessment. Abstract 1294, Society of Toxicology 63rd Annual Meeting, Salt Lake City, UT, 2024.

Schaefer H. Introduction: Challenges associated with the use of epidemiologic studies in chemical risk assessments. Abstract 1295, Society of Toxicology 63rd Annual Meeting, Salt Lake City, UT, 2024.

Schaefer H. Continued refinement of systematic review to better facilitate risk assessment needs – Discussion of modifications to evidence synthesis and integration when considering observational data in dose-response assessment. German Federal Institute for Risk Assessment, Virtual, 2023.

Schaefer H. Evidence-based methods in toxicology: Progress in the past decade and collaborative projections for the future. Abstract 1218, Society of Toxicology 62nd Annual Meeting, Nashville, TN, 2023.

Anyangwe N, Fitzpatrick S, Flannery B, Mattia A, **Schaefer H**, Tyler T, Whiteside C. Use of dog studies in US FDA's safety assessments for food additives and color additives. Abstract 2781, Society of Toxicology 58th Annual Meeting, Baltimore, MD, 2019.

Schaefer H, Fitzpatrick S, Flannery B. Chemical contaminants in children's food: A review of recent literature. Abstract 2640, Society of Toxicology 58th Annual Meeting, Baltimore, MD, 2019.

Reddick Schaefer H, Myers J. Texas Commission on Environmental Quality Guidelines for Systematic Review: Ethylene glycol case study. Abstract 2821, Society of Toxicology 56th Annual Meeting, Baltimore, MD, 2017.

Schaefer HR, Bentley R. Cross-sectional analysis of health problems of the indigenous people of the Chaupirana Valley of Bolivia. Abstract 3152, American Public Health Association (APHA) Annual Meeting and Expo, Denver, CO, 2016.

Reddick H. Engaging environmental protection agencies at the state level. Abstract 33726, American Public Health Association Annual Meeting (APHA) and Expo, Chicago, IL, 2015.

Reddick H. An introduction to regulatory toxicology. Science Teachers and Industry Workshop, Kilgore, TX, 2015.

Reddick H., Schaefer, C. Using geographic information systems to model paths from remote villages to the nearest Bolivian health clinics. Texas Public Health Association, Austin, TX, 2015.

Reddick H. Ambient air quality analysis. Texas City La Marque Community Advisory Council, Texas City, TX, 2014.

Reddick H. Ambient air quality analysis. Southeast Texas Regional Planning Committee, Beaumont, TX, 2014.

Reddick H. Air quality along the Texas Gulf Coast. Society of Toxicology 52nd Annual Meeting, San Antonio, TX, 2013.

Reddick H. Ambient air quality update. Regional Air Quality Planning Committee, Houston, TX, 2013.

Reddick H. Rural schools initiative. Environmental Health Sciences Summer Institute, Austin, TX, 2012.

Reddick H. Rural schools initiative. Environmental Health Sciences Summer Institute, Austin, TX, 2011.

Reddick H. Community outreach and education program annual update. National Institute of Environmental Health Sciences (NIEHS) Center Director Meeting, Louisville, KY, 2010.

FEATURED MENTIONS

Widener A. 2010. In their own backyard: Students in rural schools need extra support to learn science, and educators are bringing it to them. HHMI Bulletin 23(4):14-17. November. Available from: https://web.archive.org/web/20101105193237/http://www.hhmi.org/bulletin/nov2010/pdf/rural_science_education.pdf.