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Jiaru Zhang, M.P.H., DABT

Principal Scientist

Ms. Zhang is a principal scientist and toxicologist specializing in chemical hazard evaluation and alternative assessments for industrial, personal care, medical device, and building products under the regulatory schemes in the United States (US), Canada, Mexico, European Union (EU), China, Australia, Japan, New Zealand, etc. She has led a large, multi-functional team through thousands of Globally Harmonized System of Classification and Labeling (GHS) hazard evaluations and development of safety data sheets (SDSs). She is an expert at evaluating suitability of *in vitro* and *in silico* methods in lieu of animal testing for the purpose of chemical registration and product safety evaluation. Ms. Zhang also led product safety and risk assessments for extractables and leachables from medical devices, pharmaceutical packaging impurities, and cosmetic/personal care products. In addition, she has presented on these issues at the Society of Toxicology, Product Stewardship conference, Society of Chemical Hazard Communication, and on various webinars. Prior to joining Gradient, she worked at the Fox Chase Cancer Center and at the United Nations Convention of Long-range Transboundary Air Pollution.

Areas of Expertise

- Product Stewardship
- GHS Hazard Assessment, SDS, & Labeling
- Product Safety Evaluation
- Medical Device & Pharmaceutical Safety Assessment

Services

- Toxicology & Risk Sciences
- Global Chemical Registration
- GHS Hazard Assessment
- Product Safety Assessment
- Chemical Portfolio Hazard/Risk Analysis
- Third Party Profiling (GreenScreen®, EPA Safer Choice, Chemforward)
- Alternative Analysis
- Biocompatibility Support
- Toxicological Risk Assessment (TRA)
- Biological Evaluation Plans
- Medical Product Liability
- ESG

Education

- M.P.H., Environmental Health Sciences & Policy, Columbia University Mailman School of Public Health
- B.S., Biology, Geography, Villanova University
- Diplomate of the American Board of Toxicology

Selected Projects

Toxicological Hazard Evaluation, SDS, and Labeling: Managed a large team of human health/ecological toxicologists and chemists to provide GHS hazard evaluations of thousands of chemicals. Identified appropriate read-across in the absence of toxicological data. The hazard evaluations were used for compliant SDSs in North America, Europe, Asia, Australia, etc. Spearheaded the database automation of product-level hazard classifications. Collaborated with an external IT firm to expand client's existing chemical compliance database by automating TSCA reporting requirements.

Alternative Assessment Under California's Safer Consumer Products (CA SCP): Conducted an Alternative Assessment (AA) under CA SCP regulations for methylene diphenyl diisocyanate used in sprayed polyurethane foam. Worked with dozens of responsible entities and a trade group, identified potential alternatives and their relevant toxicological and exposure information, compared alternatives with the regulated products, and successfully received an approved Abridged AA under the regulation.

Alternative Assessment: Evaluated toxicological properties of safer alternatives for ultraviolet filters, preservatives, plasticizers, and flame retardants as part of the ChemFORWARD initiative using a framework similar to that of GreenScreen® and Cradle to Cradle™.

Medical Device Approval: Provided toxicological expertise in responding to deficiencies for the purpose of obtaining CE Marking in the EU. Demonstrated history of safe clinical safety and provided justifications for waiving biocompatibility studies.

Merger and Acquisition: Identified and resolved EHS compliance issues under US and Canadian requirements. Provided a solution for the seller to comply with a US EPA consent order that did not affect their Canadian products.

Selected Publications and Presentations

Zhang, J; Cohen, J; Lewandowski, T. 2021. "Lessons Learned from Conducting Alternatives Analyses Under California's Safer Consumer Products Program." Abstract/Poster: 6595. Presented at the SETAC North America 42nd Annual Meeting, held virtually, November 14-18.

Zhang, J. 2018. "How to Conduct Technical Due Diligence for Mergers and Acquisitions." Presented at the Society for Chemical Hazard Communication (SCHC) Spring 2018 Meeting, Buena Vista, FL, April 21-25.

Zhang, J. 2018. "Dealing with Data Gaps: Emerging Tools in Predictive Toxicology." 16p. Presented at Product Stewardship Conference 2018, Washington, DC, September 27-29.

Goodman, J; Lemay, J; Mattuck, R; Mayfield, D; Verslycke, T; **Zhang, J;** Zu, K. 2016. "Chapter 4. Health risk assessment." In *Environmental Science Deskbook (Release #14)*. (Ed.: Conrad, JW Jr.), Thomson Reuters, Eagan, MN. 61p.