



Satori.Marchitti@gradientcorp.com

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Areas of Expertise

- *In Vivo* & *In Vitro* Toxicology
- Chemical ADME & Toxicokinetics
- Oxidative Stress
- Carcinogenesis & Genotoxicity
- General & Specific Causation
- Mode-of-Action Analyses
- Risk Assessment
- Human Exposure & Biomonitoring
- Weight-of-Evidence Analyses
- Benchmark Dose Modeling

Education

- Ph.D., Toxicology, University of Colorado
- B.A., Psychology, minor in Biochemistry, University of Colorado
- Diplomate of the American Board of Toxicology

Satori A. Marchitti, Ph.D., DABT

Senior Toxicologist

Dr. Marchitti is a board-certified toxicologist with more than 20 years of experience in toxicology and human health risk assessment, including occupational exposures and risks. She has managed many human health risk assessment projects involving complex toxicology, epidemiology, and mechanistic analyses, including those related to the amended Toxic Substances Control Act (TSCA) and litigation. She is skilled at conducting systematic reviews, weight-of-evidence analyses, and critically analyzing animal and human toxicological data. In addition, Dr. Marchitti has expertise in physiologically based pharmacokinetic (PBPK) and benchmark dose (BMD) modeling.

Before joining Gradient, Dr. Marchitti was a senior associate at a risk science firm, where she provided toxicology expertise to industry, academia, and government. Prior to consulting, Dr. Marchitti was a federal postdoctoral and ORISE fellow at the US EPA, where she focused on early life stage exposure to environmental chemicals, using both *in vitro* and *in silico* methodologies, within the Chemical Safety for Sustainability and Human Health Risk Assessment programs. Dr. Marchitti has authored many peer-reviewed articles and book chapters in the fields of toxicology and human health risk and exposure assessment.

Selected Projects

Occupational Exposure Assessment: Performed an evaluation of occupational exposure and toxicity information for trichloroethylene to provide support to multiple industrial clients in responding to US EPA's Proposed Rule and request for information under the 2016 TSCA. Reviewed the scientific literature and studies relied on by US EPA for derivation of toxicity reference values.

Carcinogenesis and Genotoxicity Evaluation: Performed a systematic review of epidemiology studies regarding the association between various low- and no-calorie artificial sweeteners and cancer incidence. In addition, evaluated and summarized genotoxicity and carcinogenicity data from animal and *in vitro* toxicological studies investigating artificial sweeteners.

Human Exposure Assessment: Assessed the toxicological significance and human health risks of exposure to PFAS in drinking water and ambient air. Reviewed the scientific literature regarding animal toxicology, human health effects, and chemical and environmental characteristics of PFAS, as well as the historical state of knowledge of these topics.

BMD Modeling: Evaluated and provided comments on US EPA's 2021 ECEL derivation for carbon tetrachloride, and 2023 subsequent Proposed Rule, with a focus on evaluating the appropriateness of the underlying studies used to derive the relevant points of departure (PODs). Evaluated US EPA's use of BMD modeling and other methods, such as PBPK modeling. Performed BMD modeling of the data, and provided the client with proposed alternative ECEL derivations.

Selected Publications

Bailey, L; **Marchitti, S.** 2024. "Evolving chemical risk evaluation and management under the Toxic Substances Control Act: Trichloroethylene as an example." *Gradient Trends* 90. Spring.

LaKind, JS; Burns, CJ; Pottenger, LH; Naiman, DQ; Goodman, JE; **Marchitti, SA.** 2021. "Does ozone inhalation cause adverse metabolic effects in humans? A systematic review." *Crit. Rev. Toxicol.* 51(6):467-508.

LaKind, JS; Davis, M; Lehmann, GM; Hines, E; **Marchitti, SA;** Alcalá, C; Lorber, M. 2018. "Infant dietary exposures to environmental chemicals and infant/child health: A critical assessment of the literature." *Environ. Health Perspect.* 126(9):96002.

Verner, MA; Plouffe, L; Klienskamp, KK; Rodriguez-Leal, I; **Marchitti, SA.** 2017. "Evaluating the influence of half-life, milk:plasma partition coefficient, and volume of distribution on lactational exposure to chemicals in children." *Environ. Int.* 102:223-229.