

# Chase Butler, M.S.

## Senior Environmental Chemist

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Ms. Butler is a chemist with experience in materials science and polymer degradation. At Gradient, she provides support for chemical registration and compliance in multiple geographic regions and countries and advises on the use of appropriate chemicals for read-across of toxicological data. She also works on Gradient's product stewardship initiatives, reviewing the reactivity of material additives and degradation products as part of consumer product risk assessments. Prior to joining Gradient, Ms. Butler conducted research at Yale's Center for Conservation and Preservation, studying the compounds generated during the oxidation of contemporary materials used in art and art conservation.

### Representative Projects

**Global Product Portfolio Management:** Coordinated efforts to improve and maintain a custom online database for managing the regulatory compliance of products used globally.

**TSCA Compliance Assessment:** Implemented a comprehensive plan for compliance with United States Toxic Substances Control Act (TSCA) inventory requirements. Aided in the creation of a customized IT program to evaluate and auto-comply with TSCA import certification and export notification requirements.

**Chemical Compliance and Registration:** Prepared applications for new chemicals under various regulatory guidelines in several Asian-Pacific countries. Coordinated efforts involving technical research and input on physico-chemical properties, chemical hazard profiles, and expected exposures to workers, the public, and the environment. Determined jurisdiction-specific product-level hazard classifications; SDS disclosure requirements; and handling, storage, disposal, and release requirements. Aided client in achieving compliance under environmental health and safety regulations.

**Read-across Chemical Recommendation:** Provided chemical analogs to use as read-across for substances lacking toxicity data, minimizing cost of analytical testing and facilitating compliance in hazard communication.

**Contaminated Site Assessment:** Reviewed historical documents and prepared historical timeline of former roofing manufacturing plants to support statistical source allocation analysis of an urban Superfund site. Reviewed environmental investigations and prepared summary of contamination at the site.

**Product Safety Evaluation:** Reviewed GC- and LC-MS data for the presence of skin sensitizers in various polyurethane-based products. Identified appropriate chemical surrogates to facilitate hazard assessments of data-poor chemicals. Provided technical expertise on polymer formulations and additives.

**Metals Contamination Assessment:** Assessed metal contamination in sediments along an industrialized watershed to support a comprehensive review of potential sources of the contamination.

**Structure-Reactivity Analysis:** Assessed the comparability of alpha-diketone and beta-diketone chemistries, based on first principles of physical organic chemistry.

### Areas of Expertise

- Environmental Chemistry
- Materials Science and Degradation Pathways
- Analytical Testing Methods
- Read-across Assessment

### Education

M.S., Chemistry, Carnegie Mellon University

B.S., Chemistry, Yale University

### Selected Publications and Presentations

Marsh, CM; **Butler, CH**; Cohen, JM. 2017. "Improving Read-Across Assessment Framework (RAAF): Alkylbenzenes and Skin Sensitization." Presented at the SCHC 2017 Spring Meeting, New Orleans, LA.

Noble, A; **Butler, CH**; Lunsman, T; Lewis, A. 2016. "A Comprehensive Approach to Evaluating the Hazards of Microplastics in the Marine Environment." Presented at the 2016 Ocean Sciences Meeting, New Orleans, LA.

**Butler, CH**; Whitmore, PM. 2014. "Evolution of peroxide species during the photooxidation of poly(vinyl butyral)." *J. Appl. Poly. Sci.* 131(2):39753.

**Butler, CH**; Whitmore, PM. 2013. "Measurement of peroxides in the volatile degradation products of polypropylene photooxidation." *Poly. Degrad. Stab.* 98:471-473.

Gnanamgari, D; Sauer, E; Schley, N; **Butler, C**; Incarvito, C; Crabtree, R. 2009. "Iridium and Ruthenium complexes with Chelating N-Heterocyclic carbenes: Efficient catalysts for transfer hydrogenation,  $\beta$ -alkylation of alcohols and N-alkylation of amines." *Organometallics* 28:321-325.

