Fian Louie

Current Position
Health Scientist

Discipline Areas
> Toxicology
> Risk Assessment
> Exposure Assessment

Years' Experience
6 Years

Joined Cardno
2015

Education
> BS, Environmental Toxicology, University of California, Davis, 2015

Summary of Experience

Fian Louie is a Health Scientist at Cardno Chemrisk. She completed her Bachelor of Science in Environmental Toxicology from the University of California, Davis. Her primary areas of training include toxicology and human health risk assessment. As a student, she was involved in identifying metabolites to characterize disease and nutritional status. In addition, she has worked with the California Office of Environmental Health Hazard Assessment to assess cancer risks to safety professionals from contaminated ash exposure. At Cardno ChemRisk, she has been involved in assessing risks and exposures in workplaces, communities, and consumers associated with various compounds including asbestos, benzene, heavy metals, herbicides, volatile organic compounds, and particulates.

Significant Projects

Litigation Support

Managed and provided technical support for expert witness reports and deposition and trial testimony. Oversaw and supported cases related to occupational and non-occupational exposure to benzene-containing products, and to asbestos-containing products including insulation materials, friction products, gaskets, packing, electrical components, drywall accessory products, floor tiles, laboratory products, talc, and paint. Researched scientific literature on health hazards and historical exposures associated with asbestos and other occupational hazards.

Workplace Health and Safety

Reviewed and summarized testimony and corporate documents to evaluate historical corporate conduct regarding employee safety and knowledge of the hazards of asbestos.

Participated in baseline exposure assessment at crude oil refinery. Assisted with collecting full-shift samples for VOCs, particulates, and noise. Assisted with collecting qualitative information from employees to assign similar exposure groups.

Participated in baseline exposure assessment at an automotive manufacturing facility. Assisted with collecting qualitative information regarding manufacturing and work processes to develop risk prioritization method associated with specific work tasks.

Human Health Exposure and Risk Assessment

Performed exposure assessments associated with direct, bystander, and take-home exposure to asbestos-containing products, including insulation materials, friction products, gaskets, packing, floor tiles, laboratory products, and drywall accessory products.

Assessed the safety of unintended residual chemicals from prior cargo in bulk transportation of food ingredients. Estimated acceptable residual concentrations of benzyl alcohol, monochlorobenzene (MCB), and n-heptane in molasses, one of the most commonly consumed food commodities shipped in bulk in the U.S., using estimated dietary intake values, health-based guidance values, and toxicity thresholds.

Conducted exposure assessment of phthalates and metal components in medical device to evaluate compliance with California Proposition 65 labeling requirements. Results from wipe testing were used to assess potential exposure through reasonably foreseeable use.

Assessed the potential cancer risks associated with consumption of glyphosate in grain-based cereals by age groups using estimates of cereal consumption in the U.S. and mean glyphosate levels in various cereal products. Daily glyphosate doses and lifetime average daily doses were compared to the proposed No Significant Risk Level for glyphosate.

Performed toxicological and odor threshold evaluation of chemical constituents in electrolyte and adhesive materials. Conducted screening level assessment for a variety of chemicals by identifying occupational exposure limits, odor thresholds, and/or toxicological data. Screening results were used to identify potential health effects experienced by a worker or consumer.

Reviewed ingredient-specific safety reviews from various databases to identify skincare ingredients with potential skin irritation hazards. Results were used in a tier-based approach to evaluate the skin irritation potential of face cream products.

Simulation Study

Assisted with developing and conducting simulation study to evaluate potential exposures to particulates, metals, VOCs, and inorganic acids released from lithium-ion batteries during thermal runaway.

Environmental Monitoring and Remediation

Assisted with the evaluation of laboratory data generated during monitoring and sampling of VOCs in ambient air at a natural gas operations site.

Provided project support regarding remediation of former landfill site from asbestos-contaminated vermiculite. Researched air pollutant emission factors from various dust source categories.

Membership and Service to Professional Societies

- Society of Environmental Toxicology and Chemistry
  - 2017 – Present
- Genetic and Environmental Toxicology Association of Northern California (GETA)
  - 2015 – Present

Publications

- Louie, F., N.F.B. Jacobs, L.G.L. Yang, C. Park, A.D. Monnot, and S.B. Bandara. 2021. A comparative evaluation of dietary exposure to glyphosate resulting from recommended U.S. diets. Food Chem Tox. 158:112670

Published Abstracts

- Louie, F., Towle, K., Fung, E., Kozal, J., Liang, L., Garnick, L., Monnot, A. 2020. A Tiered Skin Irritation Safety Assessment of a Face Cream Personal Care and Cosmetic Product. Society of Toxicology Annual Meeting. Anaheim, CA

> Louie, F., Jacobs, N.F., Liang, L.G., Monnot, A.D., Novick, R.M. 2019. Exposure Assessment of Glyphosate in Breakfast Cereals in the U.S. Society of Toxicology Annual Meeting. Baltimore, MD

> Perez, A.L., Poteete, C., Louie, F., Garner, L., Monnot, A., Zisook, R., Scott, P.K. 2017. State of the science and meta-analysis of crop uptake of per- and polyfluoroalkyl substances (PFAS). DIOXIN 2017 Symposium. Vancouver, Canada

> Manning, C.M., Drechsel, D.A., Winans B., Louie F., Unice K.M., Tvermoes B.E. 2017. Determining the Acceptability of Prior Cargos in the Bulk Shipment of Food Commodity Chemicals. Society of Toxicology Annual Meeting. Baltimore, MD