



# Elise J de Gandiaga

## Current Position

Health Scientist II

## Discipline Areas

- > Toxicology
- > Environmental Toxicology
- > Risk Assessment
- > Exposure Assessment
- > Food Safety
- > Microbiology

## Years' Experience

8 Years

## Joined Cardno

2011

## Education

- > BS, Environmental Toxicology, University of California, Davis, 2010

## Summary of Experience

Ms. Elise de Gandiaga is a Health Scientist II with Cardno ChemRisk in the Aliso Viejo, California office with 8 years of consulting and project management experience. She completed her Bachelors of Science in Environmental Toxicology with an emphasis in Aquatic Toxicology at the University of California, Davis in 2010. Her primary training and areas of expertise include toxicology, consumer product safety, occupational and environmental exposure assessment, and human health risk assessment. Her experience includes an evaluation to derive a human health-based surface dust cleanup criterion for beryllium based on beryllium-specific and general exposure factors, and comprehensive literature reviews and litigation support on matters related to toxicology, consumer product safety, and occupational exposures to polychlorinated biphenyls (PCBs) and asbestos. Currently, she is responsible for toxicological literature reviews of harmful and potentially harmful constituents (HPHCs), as well as product testing study design associated with electronic cigarettes for regulatory submission and compliance.

## Significant Projects

### Consumer Product Safety and Regulatory Compliance

Conducted a state-of-the-science evaluation of e-cigarettes or electronic nicotine delivery systems (ENDS) involving the chemical constituents in e-cigarette liquid and aerosols produced, as well as topography and device parameters associated with e-cigarette users and variances in resulting aerosol chemical constituents.

Developed an effective framework to assist with evaluating and characterizing risk associated with various electronic cigarette liquids and devices for FDA submission of Premarket Tobacco Applications (PMTAs).

Produced comprehensive literature reviews and meta-analyses of electronic cigarette toxicology and topography for submission of PMTAs.

Designed product sampling and analysis studies, including liquid and aerosol analysis, as well as extractable and leachable analysis of electronic cigarette products.

Provided support for project evaluating the potential human health risks from trace contaminants in food transported via bulk containers on large vessels.

### Human Health Exposure and Risk Assessment

Conducted an evaluation to derive a human health-based surface dust cleanup criterion for beryllium based on beryllium-specific and general exposure factors, including 1) beryllium physicochemical characteristics, bioavailability and influence on disease prevalence by different routes of exposure, and 2) surface dust dissipation, resuspension, and transfer.

Assisted with the design and execution of a simulation study to assess VOCs, aldehydes, and metals present in aerosol from electronic cigarette devices.

Provided support for an assessment of community exposure to PCBs from a New York water source following remediation efforts and the risks for various diseases.

Performed retrospective exposure analysis for various consumer products, including asbestos-containing friction products, gaskets and packing, phenolic molding products, electronic cigarettes, and persistent organic chemical exposures.

Conducted comprehensive literature review of COPCs associated with refinery fires and the burning of petroleum products for a human health risk assessment of residential exposure to airborne contaminants associated with a refinery fire.

Provided project support for exposure assessment of pet litter (pine wood- and corn-based) during simulated use to measure airborne particulate concentrations through real-time and active sampling methods for inhalable particulate and total suspended particulate.

#### Environmental Toxicology

Participated in experimental design, reported and interpreted test results through statistical analysis, performed daily maintenance of animal husbandry, performed multiple water chemistries, and assisted in sediment test preparation for large scale exposures with *Neanthes succinea*, while working for Pacific EcoRisk, a third party environmental testing firm.

Conducted research at the UC Davis Bodega Marine Laboratory, where she investigated the acute effects of N,N-Diethyl-meta-toluamide (DEET) on *Strongylocentrotus purpuratus* and examined the natural and anthropogenic stressors, such as climate change, disease and toxicants, on ecosystem processes.

Assisted with an epidemiological study conducted by the Southern California Coastal Water Research Project (SCCWRP) assessing the risk of swimming-related illnesses following exposure to nonpoint source contaminated waters at three beaches in Southern California. She obtained experience working in a mobile marine and microbiology laboratory, collected field samples, performed on-site testing, as well as cultured, isolated and analyzed bacterial colonies from various media using vitek, an instrument capable of microbial identification, and antibiotic susceptibility testing.

#### Litigation Support

Managed litigation support on cases involving potential occupational exposures to asbestos from phenolic molding compounds, brakes, gaskets, and packing material in technical equipment. Reviewed asbestos literature and case materials for use in the preparation of expert testimony and reports.

Managed litigation support on a project involving compliance and best industry practices associated with UST systems located at gas stations.

- > Society of Toxicology (SOT)
- > The Society of Environmental Toxicology and Chemistry (SETAC)

## Publications

### Peer-Reviewed Publications

- > Shay, E., E. De Gandiaga, and A.K. Madl. 2013. Considerations for the development of health-based surface dust cleanup criteria for beryllium. *Crit Rev Tox.* 43(3):220-243.
  
- > Thornton, S.A., More, S.L., Maskrey, J.R., de Gandiaga, E.J., Cheng, T.J., Sharma, A., Fung, E.S., Bernal, A.J, and Madl, A.K. 2019. PBPK Modeling Characterization of Potential Acute Impairment Effects from Inhalation of Ethanol During E-Cigarette Use. Poster presentation at the Allegheny-Erie Society of Toxicology Regional Chapter Meeting. Pittsburgh, PA; May 1-2, 2019.
  
- > More, S.L., Thornton, S.A., Sharma, A., Maskrey, J.R., Fung, E.S., de Gandiaga, E.J., Cheng, T.J., Madl, A.K., and Bernal, A.J. 2019. Characterization of Acute Impairment Effects from Inhalation of Ethanol During E-Cigarette Use. Poster presentation at the 58th Annual Meeting and Society of Toxicology (SOT) Meeting. Baltimore, MD; March 10-14, 2019.
  
- > de Gandiaga, E., Bernal, A., Cheng, T., Schulte, A., and Madl, A. Aldehyde Concentrations Produced Across Different Generations of Electronic Cigarettes Meta-Analysis and Risk Assessment of Aerosol Concentrations. February 2019. Poster presented at the annual meeting of the Society for Research on Nicotine & Tobacco, San Francisco, CA.
  
- > Bernal, A., de Gandiaga, E., Cheng, T., Sharma, A., Schulte, A., and Madl, A. E-cigarette Topography: State-of-the-Science Analysis and Considerations for Human Health Risk Assessment. February 2019. Poster presented at the annual meeting of the Society for Research on Nicotine & Tobacco, San Francisco, CA.
  
- > de Gandiaga, E., Bernal, A., Cheng, T., and Madl, A. Formaldehyde and Acetaldehyde Generated by Electronic Cigarettes: Meta-Analysis of Aerosol Concentrations and Comparison to Tobacco Cigarette Smoke. In: *2016 Annual Meeting Abstract Supplement*, Society of Toxicology, 2016. Abstract no. 3624.
  
- > Bernal, A., De Gandiaga, E., Cheng, T., and Madl, A. Electronic Cigarette Puff Topography: Analysis of Monitoring Method Among Naïve and Experienced Users. In: *2016 Annual Meeting Abstract Supplement*, Society of Toxicology, 2016. Abstract no. 3656.
  
- > Scott, P., Bernal, A.J., Cheng, T., de Gandiaga, E., and Kerger, B.D. Dose-Response Relationships for DNA-Adducts Formed by Mono-, Di- and Tri-Chlorobiphenyls: Do Common Indoor and Outdoor PCB Vapor Exposures Pose a Significant Cancer Risk? In: *The Toxicologist: Supplement to Toxicological Sciences*, 144(1), Society of Toxicology, 2015. Abstract no. 539.
  
- > Shay, E.C, E.J. de Gandiaga and A.K. Madl. 2012. Considerations for a Health-Based Surface Dust Cleanup Criterion for Beryllium. Poster presentation at the Society of Toxicology (SOT) Annual Meeting. March 15, 2012. San Francisco, CA

## Published Abstracts