

5th International Conference and Exhibition on

Occupational Health & Safety

June 06-07, 2016 Dallas, USA

Recycling mercury-impacted scrap metal: Key issues and research needs

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The recycling of mercury-impacted scrap metal can emit measurable amounts of mercury; however, existing characterization data are insufficient to fully understand the origin, key sources, and concentrations of mercury within scrap metal and the recycling process. Currently, industry-specific mercury emissions guidance values exist for many known anthropogenic mercury sources (e.g., coal-fired utility plants and waste incinerators), but are largely nonexistent for scrap metal processing and recycling facilities. Given the lack of significant guidance for recycling mercury-impacted scrap metal, these other values can provide a useful framework to potentially guide the development of mercury acceptance and release criteria/limits for recycling facilities. Of particular importance to occupational health and safety professionals, additional information on the origin, source, nature, and extent of mercury-impacted metal in scrap is important for assessing measures to protect scrap metal recycling workers from potential health and safety hazards that might be posed by the processing and melting of mercury-impacted metal.

Biography

Molly E Finster is an Environmental Health Systems Scientist in the Risk and Infrastructure Science Center within the Global Security Sciences Division at Argonne National Laboratory. She has worked on a variety of national programs and technical projects to solve complex environmental challenges, assure regulatory compliance, and achieve project success. With a background in Environmental and Chemical Engineering, she has conducted laboratory research, field studies, plant floor investigations, and computer-based modeling to advance both research and practice. Current research includes: chemical risk/exposure assessment; environmental impact analyses; resource management; multimedia contaminant fate and transport; site investigation; environmental compliance; and asset management.

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