

## Emerging Contaminants: What's Next? A Look at the Lautenberg Chemical Safety Act

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**Background/Objectives.** Advances in technology and emerging information can cause uncertainty in estimating and planning for environmental liabilities. While well-known chemicals can be difficult and costly to clean up, trying to anticipate what chemicals may emerge under new or heightened scrutiny for investigation and clean-up efforts can create new and different set of challenges. If a site considered “cleaned up” is be deemed to be contaminated again, the technology used during the original clean-up effort may not be compatible with the chemistry of the newly emerged contaminant or with lowered cleanup goals for an existing contaminant. This paper will expand upon previous work by the authors and further explore the possible implications of the new mandate for the US Environmental Protection Agency (USEPA) to assess the risks from exposure to active chemicals under the Lautenberg Chemical Safety Act (aka TSCA Reform), in a data-driven analysis that considers the available information on chemical hazard rankings and use profiles.

The original TSCA Inventory of existing chemicals, created in the years after the passage of TSCA in 1976, listed approximately 62,000 existing chemicals. The USEPA has evaluated the risks from only a few hundred of those chemicals. The Inventory has grown to list more than 84,000 chemical substances based on Premanufacture Notices (PMNs) of new chemicals. Historically, only about half of those PMNs contained toxicology or ecotoxicology data, and the USEPA reviewed only 2 to 3% of PMNs in detail, gauging the potential risks from exposure to other new chemicals by analogy to existing chemicals. In short, TSCA did not require or empower the USEPA to fully assess the risks from chemicals in commerce despite the fact that approximately 2,200 substances are manufactured or imported at more than a million pounds per year and roughly 8,000 chemicals are manufactured or imported in amounts of 25,000 pounds or more per site.

**Approach/Activities.** USEPA will have more information than ever before on the potential hazards of environmental contaminants. USEPA has already identified and prioritized over 300 chemicals for an initial assessment under the new TSCA rules. These new assessments may include chemicals already incorporated in the USEPA's Integrated Risk Information System (IRIS) but with outdated data; USEPA may also be assessing chemicals not currently included in IRIS or with limited toxicity data. The authors previously compared the short list of TSCA priorities (90 chemicals) to IRIS and evaluated current USEPA remediation analytical lists with the goal of identifying those chemicals that could become a remediation priority based on the TSCA risk assessments. The authors have expanded the original analysis to the longer list of chemicals (>200) including identification of those chemicals currently included on remediation lists, but with potentially outdated toxicity data (i.e., prior to 2008) that could result in lower cleanup goals. Annual US chemical production rates were also evaluated to identify what chemicals may become the next generation of “emerging” contaminants that industry and remediation practitioners may need to address.

**Results/Lessons Learned.** We will present the output of the expanded analysis described above, and explore the possible implications of the new mandate for USEPA in a data-driven

analysis that considers the potential extent of environmental contamination. Our analysis confirms that TSCA has the potential to not only identify “new contaminants” that could be added to existing analytical lists, but also could lower many current clean up goals as new toxicity data are added to the review process.