



Tosca the opera: less dramatic than the revision of TSCA the law? Photo credit: Jeffrey Dunn for Boston Lyric Opera © 2010

In a striking turn of events, last night the Senate [passed](#) a [newly revised version](#) of the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which would reform the Toxic Substances Control Act ([TSCA](#)) for the first time in four decades.

A summary of the bill's provisions and analysis of the differences between the previous draft and the one approved last night is available [here](#). In general, the legislation seeks to give EPA more authority and resources to assess the safety of chemicals. It also seeks to overcome the challenges (paralysis?) that EPA has faced when trying to regulate chemicals since the 1991 5th Circuit decision in [Corrosion Proof Fittings v. EPA](#), which found that EPA was required to prove it was choosing the least burdensome option when regulating the chemical. For reasons [ably analyzed](#) by my colleague Timothy Malloy, it's still not clear this bill solves that problem.

As recently as two days ago the bill, which one commenter described as enduring a "[tortured, Sisyphean path](#)," was the subject of a hold by Senator Barbara Boxer (D-Ca). Senator Boxer had been fighting the Senate bill for months, seeing it as not sufficiently protective of human health. At one point, she even admonished her colleagues, "[t]his is the environment committee, not the boardroom of the chemical companies."

Despite its tortured path, TSCA reform actually garners broad bipartisan support (when is the last time someone wrote that, particularly about an EPA-regulated environmental statute?). Groups ranging from the chemical industry to environmental NGOs have called for TSCA reform. Given the overwhelming interest in reform, and the broad political support of this particular bill, you would expect the response to be overwhelmingly positive-

it isn't. The [chemical industry](#) and some NGOs (notably [EDF](#), which has been heavily involved in the process) are satisfied if not happy. [Others](#) think the bill is still flawed.

If everyone agrees that the current system isn't working, then why is it taking so long to fix it? It seems to boil down to the fact that there isn't an obvious way to improve the process, which is complicated for at least the following reasons:

- The number of chemicals is enormous. There are currently over 80,000 chemicals approved for use, 10,000 marked as "high priority" for screening. Thousands of new chemicals are discovered every year.
- The risk assessment process by which the EPA determines the risk posed by a chemical is extremely complicated. Non-pharmaceuticals chemicals are not tested on humans for safety, leaving regulators to estimate human toxicity based on animal testing, epidemiological studies, and predictive *in vivo*, *in vitro*, and *in silico* tests. The second input in the risk equation is exposure, which is also devilishly tricky. How much of a chemical is released from each use or product, at what rate does it enter other media and degrade? There are a lot of variables, and not a lot of resources dedicated to addressing those questions.
- Even after the EPA determines a chemical poses a risk, it must balance that risk against the potential benefits and contemplate a variety of regulatory responses, most of which center on controlling the use of the substance, but rarely ever outright bans or mandated use of safer alternatives.

Add it all up, and you have a very complicated system, which is a major reason why the EPA has thoroughly assessed so few chemicals. In June 2014, EPA released its first risk assessment of a chemical under TSCA *in 28 years*. Since then it has completed four more (0.2% of the high production volume chemicals used in the U.S.). The bill passed last night tries to make some tweaks to that system by giving EPA a tighter timeline for completing safety assessments and more monetary resources and administrative power to do it.

Ultimately, though, legislation can't simplify an incredibly complex system. Increased resources might speed the current process along, but a significant change will only come from a paradigm shift in the way we as a society regulate chemicals. While there are some efforts to develop prevention-based approaches that prefer or require the use of safer chemicals over toxic chemicals-including California's [Safer Consumer Products Program](#) and work here at [UCLA](#)-those approaches aren't on the table at the federal level. For now, those of us that follow chemical regulation are left with a conflicted sense that we could get something better, but we're not likely to witness a sea change.

The Senate bill passed yesterday will now be combined with the [House version](#), which passed 398-1 in June 2015.