

Legally poisoned: Professor outlines risks of daily exposure to toxicants

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Americans are exposed to hundreds, if not thousands, of suspected toxic substances every day, substances that affect the development and function of the brain, immune system, reproductive organs or hormones. Children are the most vulnerable. But no public health law requires product testing of most chemical compounds before they enter the marketplace.

That must change, UC Riverside professor Carl Cranor argues in a new book, "Legally Poisoned: How the Law Puts Us at Risk from Toxicants" (Harvard University Press, 2011).

The current harm-based or risk-of-harm-based legal structure for regulating exposure to [toxic substances](#) is problematic, says Cranor, a professor of philosophy and longtime advocate of reforming U.S. regulatory policies. "Because most substances are subject to post-market regulation, the existing legal structure results in involuntary experiments on citizens. The bodies of the citizenry are invaded and trespassed on by commercial substances, arguably a moral wrong."

Scientists are finding that every industrial chemical and pesticide produced today is capable of entering our bodies, says Cranor, who has served on science advisory panels for the state of California and on Institute of Medicine and National Academy of Sciences committees. For three decades he has studied U.S. regulatory policy and philosophic issues concerning risks, science and the law, as well as the regulation of carcinogens and developmental toxicants, and protection of susceptible

populations from new and existing technologies and toxicants. His research has been supported by the National Science Foundation and University of California Toxic Substances Research and Teaching Program.

Cranor notes that the Centers for Disease Control has identified more than 200 toxicants in the bodies of average Americans, a number that he contends is low only because the CDC has not yet developed protocols to reliably identify other substances.

"The list is only going to grow over time," Cranor says.

With the exception of pharmaceuticals and pesticides, the U.S. legal system permits most substances to come in without testing for toxicity, without knowing whether they cause cancer, birth defects, developmental effects, or reproductive effects. Only about 2 percent of 62,000 substances in commerce before 1979 have been reviewed at all for their toxicity by the U.S. Environmental Protection Agency, he says. Of the approximately 50,000 substances introduced since 1979, about 85 percent were allowed to market with no data concerning health effects.

Industrial, often toxic, chemicals are everywhere – bisphenol A used in plastic bottles and that lines cans of food; non-stick cooking surfaces or Gore-Tex material that contains perfluorinated compounds; curtains, baby car seats and TV sets manufactured with brominated flame-retardants; and countless cosmetic ingredients, industrial chemicals, pesticides, and other compounds, all of which enter our bodies and remain briefly or for years.

Chemical contamination is so prevalent, Cranor says, "that it will make future human studies more difficult; there will be no clean controls against which to compare people who are contaminated. We are all contaminated. It's a question of more or less contamination. So it's going

to be increasingly difficult for the science to detect some of these effects in humans, when they exist."

The legal process for identifying adverse health effects and removing the responsible substances from the marketplace is extremely slow, he says.

"The only way to reduce toxic contamination is to require testing of products before they come in to commerce," he says. "If they appear to pose adverse health effects, they should not be permitted, or they should be required to be reformulated so the problems disappear."

Provided by University of California - Riverside

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