# Opinion: "Reckless" chemical laws turn people into guinea pigs

**The vast majority of industrial chemicals in use today have not undergone health and safety testing. As a result, we are all treated like random guinea pigs. Pharmaceuticals and pesticides already are tested before commercialization. Now it's time for Congress to amend the laws and adopt this more prudent approach for industrial compounds, too. Until that happens, we will continue to be the involuntary subjects of random experiments for commercial chemicals tied to cancer, neurological problems, and other health effects.**

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All of us have taken pharmaceuticals for various maladies, and we have some confidence that these drugs provide health benefits and that their risks were assessed. But when it comes to the broader universe of chemicals, we are all treated like haphazard guinea pigs.

Current laws permit companies to be reckless toward our health.The vast majority of industrial chemicals in commerce (80 to 90 percent) are not tested for their toxicity before we are exposed. Without more information, we do not know which substances can cause reproductive or developmental effects, cancer or birth defects.Thus, ordinarily people are put at risk of diseases and other health effects.

Pharmaceuticals as well as pesticides already are tested before commercialization to try to prevent citizens from becoming indiscriminate experimental subjects. Congress should adopt this much more prudent approach and amend the laws for industrial chemicals.The National Academy of Sciences has called for premarket toxicity testing and review of industrial chemicals. Researchers who understand diseases caused during development echo the call.

Scientific studies reveal why we should be concerned.

We are surprisingly permeable to industrial substances. Pesticides can enter our bodies by ingestion, inhalation or absorption through the skin, providing part of the rationale for premarket testing of pesticides and protecting children. The overwhelming percentage of industrial chemicals in our food, air, house dust, products, and the environment follow the same paths, but without those toxicity safeguards. The U.S. Centers for Disease Control and Prevention has identified 212 contaminants in our bodies.

Early catastrophes with industrial contaminants revealed untested compounds could damage the health of developing children. Pregnant women convey their contaminants to their children in utero, through nursing or both, and these exposures can trigger health effects later in life. Children of women who consume fish contaminated with mercury or polychlorinated biphenyls have reduced IQs. Early life exposure to lead also contributes to lowered IQ and behavioral problems. Brominated fire retardants, in commerce for 30 years, appear to lengthen time to pregnancy, suggesting some interference with reproduction, and disrupt thyroid production, which is important to a child's neurological development. Proximity to freeway pollutants is associated with children's autism. PCBs, arsenic, and lead are linked to immune system deficiencies. Because there is no legally required toxicity data, children become casual experimental subjects.

The laws that permit contamination without safety data contrast sharply with requirements on medical

experiments. If a researcher seeks to study a vaccine, test a treatment, or compare one therapy with another, major conventions place strict ethical and legal requirements on the research.

Subjects must be volunteers – informed participants in the research and capable of consenting. They must actually consent and be at liberty to leave the experiment at any time.

Because children cannot give informed consent, a legally authorized representative should. However, children "should not be included in research unless the research is necessary to promote the health of the population represented and this research cannot instead be performed with competent persons. . ." (Declaration of Helsinki)

There must be prior research on the safety of the experiment for consent to be informed and to prevent risks and harms to participants.

Concern for the experimental participant is central. He or she should be protected against even remote possibilities of injury, disability or death. And, the well being of the human subject takes precedence over the interests of science and society.

Finally, there must be independent scientific and ethical oversight of the research to ensure the experiment is sound, and that there is compliance with safety, aims, ethics and informed participation.

These constraints on medical experiments expose the moral shortcomings of existing laws for industrial chemicals. There are no prior toxicity tests, no preparations and no reasonable assurances of safety. There is no careful assessment of safe exposures. There are no special safeguards for children. Concern for exposed people is not central. There is no independent scientific or ethical oversight to ensure protections for the populace. Testing is only required if commanded by the U.S. Environmental Protection Agency, and then the agency must justify its demand with scientific evidence.

Of course it is impossible to require informed consent for exposure to industrial chemicals. However, Congress should require substantive science and risk assessments to protect our health before we and our children are contaminated, not afterward.

Until that happens, we will continue to be random guinea pigs for commercial chemicals.

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