

Researchers craft tool to minimize threat of endocrine disruptors in new chemicals

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Researchers from North Carolina State University, the National Institute of Environmental Health Sciences and a host of other institutions have developed a safety testing system to help chemists design inherently safer chemicals and processes.

The innovative "TiPED" testing system (Tiered Protocol for Endocrine Disruption) stems from a cross-disciplinary collaboration among scientists, and can be applied at different phases of the chemical design process. The goal of the system is to help steer companies away from inadvertently creating harmful products, and thus avoid adding another [BPA](#) or DDT to the marketplace.

A paper describing the work, "Designing Endocrine Disruption Out of the Next Generation of Chemicals," is published online in the Royal Society of Chemistry journal [Green Chemistry](#).

"In order to reduce our exposure to endocrine disruptors, we have to ensure that new products entering the market do not contain them," says Dr. Heather Patisaul, an associate professor of biology at NC State and co-author of the paper. "The goal of this project is to develop an effective strategy for chemists, engineers, and manufacturers to identify potential endocrine disruptors before they are used in commercial products. Identifying these types of chemicals early in the design process will ultimately help ensure that we develop the safest products possible, which benefits consumers."

The work was conducted by biologists, green chemists and others from North America and Europe who say that recent product recalls and bans reveal that neither [product manufacturers](#) nor governments have adequate tools for dealing with endocrine disrupting chemicals (EDCs). EDCs are chemicals commonly used in consumer products that can mimic hormones and lead to a host of modern-day health epidemics including cancers, learning disabilities and immune system disorders.

The authors conclude that as our understanding of the threat to human health grows, the need for an effective testing strategy for [endocrine disrupting chemicals](#) becomes imperative.

Historically, chemists have aimed to make products that are effective and economical. Considering toxicity when designing new chemicals has not been their responsibility. This collaboration between fields expands the scope of both biologists and chemists to lead to a way to design safer chemicals.

Provided by North Carolina State University

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