

## PERSISTENT POLLUTANTS

# There's no need to control PFAS as a class, industry scientists say

Regulators need assess only “commercially relevant” substances

by **Cheryl Hogue**

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**T**he number of commercial **per- and polyfluoroalkyl substances** (PFAS) that need screening for possible regulation number in the hundreds, not thousands, industrial chemists say (*Integr. Environ. Assess. Manage.* 2021, DOI: **10.1002/ieam.4450**).

Their analysis counters a policy proposal in the **European Union** that would restrict production and use of most PFAS—persistent synthetic chemicals designed to resist degradation—as a single class. Exposure to PFAS that are metabolically active is linked to cancer, immune system problems, developmental problems, and **other health effects**.

“It’s not scientifically accurate or appropriate to base regulation on a false premise, which is what some authorities are proposing to do by saying that the number of PFAS is so high that it’s impossible to distinguish among them,” says lead author Robert Buck, a technical fellow at Chemours.

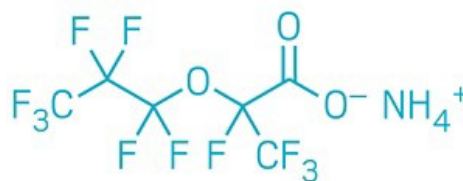
In the study, Buck’s team examined the 4,730 PFAS listed in a **2018 report** from the Organisation for Economic Co-operation and Development (OECD). The researchers say that the OECD report included PFAS that were phased out of production, never commercialized, or made in small quantities, such as less than 1 kg, for research purposes. Such chemicals aren’t candidates for regulation, they say.

The American Chemistry Council (ACC), the largest association of US chemical manufacturers, assisted the study. The ACC hired a consulting firm to collect data from PFAS makers AGC Chemicals Americas, Chemours, and Daikin; aggregate the information; and protect trade secrets.

The authors, one from each of the three companies along with an independent fluorochemicals consultant, then analyzed the data. They determined that 256 of the PFAS in the OECD report are “commercially relevant,” meaning they are present in products offered for sale, used to make those products, or contain impurities or degradation products such as metabolites.

If PFAS from other manufacturers were analyzed similarly, the total number of commercially relevant substances would likely rise above 256 but fall far below the OECD’s number, Buck tells C&EN.

And several hundred PFAS, “in our opinion, would not present an unmanageable situation for regulatory authorities,” says Jay West, executive director of ACC’s Performance Fluoropolymer Partnership. The three participating companies are members of the partnership.



**GenX**

GenX (above), a surfactant used as a processing agent in the production of fluoropolymers, is a commercial PFAS that Chemours manufactures.

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Linda Birnbaum, a former director of the National Institute of Environmental Health Sciences and now an emeritus scientist there, takes issue with the study's numerical conclusions. The US Environmental Protection Agency estimates there are some 600 PFAS in commerce and **more than 9,000**, including breakdown products and by-products, of interest to regulators and found in the environment, says Birnbaum, who was not involved with the industry analysis.

Buck's team suggests that for regulatory risk assessment, commercially relevant PFAS can be divided into five categories: nonpolymer perfluoroalkyls; nonpolymer polyfluoroalkyls; fluoropolymers; perfluoropolyether polymers; and side-chain fluorinated polymers. Each of these groups, Buck says, "possess very different physical-chemical properties and toxicological profiles."

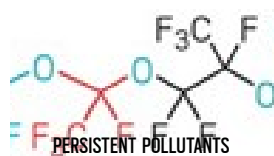
Birnbaum, a toxicologist, disagrees, saying that all metabolically active PFAS exert similar toxic effects.

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