DECEMBER 2021
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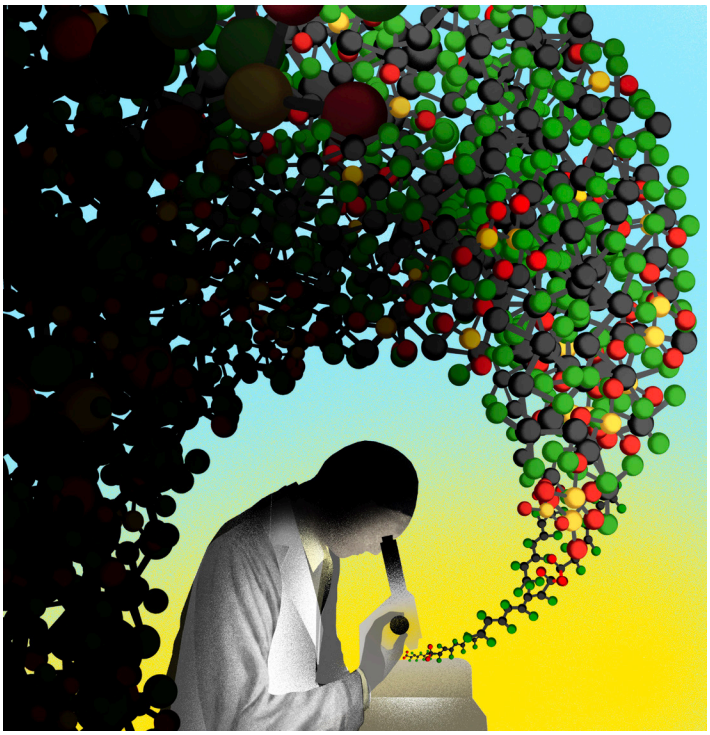
FACT SHEET

TO PROTECT HUMAN HEALTH, PFAS MUST BE MANAGED AS A CLASS

PFAS ARE A GLOBAL HEALTH THREAT

PFAS (per- and polyfluoroalkyl substances) are a large group, or class, of fluorinated chemicals that are widely used in consumer products and industrial processes. Often referred to as "forever chemicals," PFAS are extremely resistant to breakdown and can build up in humans and animals. They can also spread quickly in the environment and can be harmful to humans and many other species at extremely low doses. Known health effects include cancer, liver disease, decreased fertility, hormone disruption, developmental harm, and effects on the immune system—including decreased response to vaccines.[1]



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MANAGING ALL PFAS AS A CLASS WILL BETTER PROTECT HUMAN HEALTH

Exposure to harmful chemicals can be managed in many ways, for example through government regulations or company policies that prohibit their use. Most chemicals are currently regulated by the government one at a time, but assessing the risk for a single chemical can take decades. Instead of this slow process, scientists and advocates are calling for PFAS—which now include more than 9,000 chemicals used in hundreds of different products—to be managed as a single chemical class.[2] This approach will allow government agencies, as well as product manufacturers and retailers, to set more comprehensive policies and thus move more quickly to reduce harm. It also avoids "regrettable substitution," the common industry practice of replacing restricted chemicals with related (but not yet restricted) chemicals that pose similar risks.

COMMON PFAS PROPERTIES
Persistent: Resistant to breakdown
(Bio)accumulative: Build up in humans, animals, or the environment
Mobile: Spread easily through air, water, soil etc.
Toxic: Harmful to humans or other species

For more information, please contact:
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The term *chemical class* refers to a group of chemicals with similar properties. PFAS chemicals are similar in many ways; most important, either they don't break down in the environment, or they break down into other PFAS.[3] This means that PFAS concentrations in our bodies and in the environment will continue to increase, along with the risk of harm, unless we stop their production and use.

To compound the problem, scientists are discovering harmful health effects of PFAS at lower and lower levels; consequently, so-called "safe" levels of PFAS in drinking water are quickly outdated, leaving people unprotected. In 2009, the U.S. Environmental Protection Agency set a health guideline for allowable levels of the PFAS chemical PFOA at 400 parts per trillion (ppt). In 2016 the agency reduced that level to 70 ppt, and now some states have set levels as low as 0.1 ppt.[4] This is just for one single PFAS, yet we know from biomonitoring studies that people often have many PFAS in their bodies at once.

It is now estimated that more than 200 million people in the United States have PFAS in their drinking water.[5] People most at risk are those living near chemical and product manufacturing sites, airports, military bases, landfills, wastewater treatment plants, incinerators, and areas where PFAS-contaminated sludge is spread as a soil amendment. These are often low-income communities and/or communities of color that are already overburdened by other pollutants in their water, air, food, and indoor and outdoor environments. While we don't know for certain that every individual PFAS is hazardous to health, we do know that delaying health protections until we test every single one will put many more people at risk.

Regulation of large chemical classes such as flame retardants, dioxins, PCBs, and pesticides has been successfully done before. Yet, despite the clear benefits of such an approach, calls to regulate PFAS as a chemical class have met resistance.[6]

CHEMICAL MANUFACTURERS ARE PRIORITIZING PROFIT OVER HUMAN HEALTH

PFAS manufacturers prefer that each chemical be assessed individually, which preserves more of their product lines and obstructs or delays regulatory action that would harm their bottom line.

They also erroneously argue that certain groups of PFAS should not be included in the overall class. For example, PFAS manufacturers contend that fluoropolymers (long strings of linked PFAS) are too large to enter cells and cause harm to living things, and therefore should be excluded from regulation.[7] What they fail to mention is that fluoropolymers release massive amounts of smaller, harmful PFAS throughout their life cycle and are responsible for extensive environmental PFAS contamination.[8] Chemical manufacturers also defend the use of fluorinated refrigerant gases.[9] These degrade into smaller chemicals such as trifluoroacetic acid (TFA), another persistent and highly mobile PFAS. Given that viable non-fluorinated refrigerants have been used widely and successfully for decades, there is no valid argument for the continued use of these PFAS.[10]

GOVERNMENT AGENCIES ARE FOCUSED ON PROBLEMS, NOT SOLUTIONS

Government agencies often agree that assessing PFAS one at a time is not feasible and that managing them as a class is the most appropriate approach. However, they also assert that current regulatory procedures cannot accommodate managing such a large and somewhat diverse class of chemicals. In fact, agencies often have broad authority to regulate chemical classes, as they have done with flame retardants and dioxins. The argument has even been put forth that without toxicity data on all PFAS, regulation as a class cannot proceed.[11] This misses the point that regulating the entire class will avoid the need for toxicity data on each individual PFAS.

Similarly, government agencies may point to an inability to test for and identify each individual PFAS as a reason to reject a class-based approach. Yet methods are available for estimating total PFAS by measuring total organic fluorine concentrations.[12] Government agencies are missing the forest for the trees, resulting in delayed action on this dangerous class of chemicals.

WE MUST TAKE URGENT ACTION TO ADDRESS THE PFAS CRISIS

The single most important step we can take to mitigate the risks of these toxic "forever" chemicals is to manage them as a class. Management of PFAS as a single class of

Figure I: How PFAS Get Into Our Environment and Our Bodies

Adapted from https://www.wrd.org/content/pfas-remediation-program

chemicals is warranted from a public health and scientific perspective because *all* PFAS persist in the environment—period. Allowing concentrations to increase while the government spends years or even decades studying each one is unconscionable.

Urgently needed class-based actions include the following:

Address the drinking water problem.

PFAS is present in many U.S. water systems, yet testing and cleanup plans are limited. Federal and state-based drinking water monitoring programs should include public water systems large and small, as well as private wells, with priority placed on serving disadvantaged communities. Government agencies should measure concentrations of "total PFAS" (not just a few), set safe levels, and when these are exceeded, initiate an immediate response protocol to provide clean water to affected communities.

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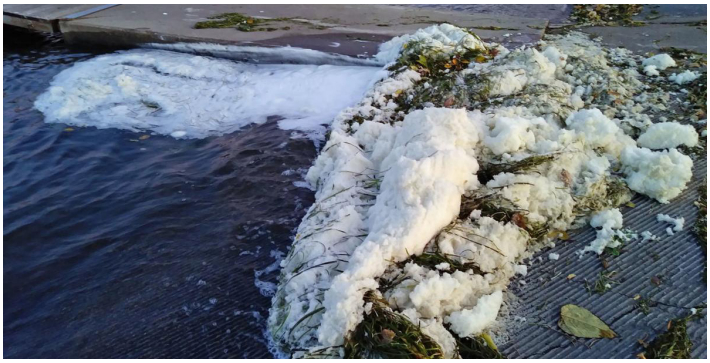
Drinking water across the U.S. is contaminated with PFAS putting millions at risk.

Clean up the existing PFAS mess.

Until safe disposal technologies are developed, the federal government should require that highly contaminated PFAS waste be safely stored to avoid overburdening already contaminated communities. At the same time, it should prioritize funding for the development of disposal methods that destroy all PFAS without releasing any harmful chemicals back into the environment. Finally, the federal government should ensure that companies responsible for this pollution pay for PFAS storage and cleanup.



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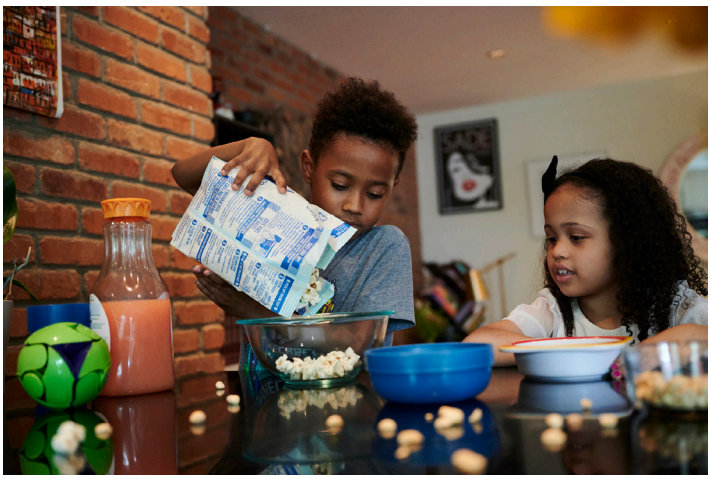
Foam containing PFAS has contaminated Starkweather Creek, Madison, Wisconsin.

Stop the use of PFAS.

All nonessential uses of PFAS should be discontinued as quickly as possible while safer alternatives are developed for currently necessary uses. Introduction of new PFAS chemicals into the marketplace should be prohibited. Governments at the federal and state level should require full transparency of PFAS uses and releases. They should also incentivize safer alternatives by discontinuing the government purchase of products with PFAS and funding the development of PFAS-free alternatives. Manufacturers and retailers should act quickly to remove all unnecessary PFAS from their products and processes.



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PFAS are used in numerous everyday products including grease-proof packaging, such as microwavable popcorn packaging.

This global threat to health and the environment demands strong policy and regulatory solutions. Instead of slowly tackling this problem, one by one, for each of the 9,000-plus PFAS chemicals, we must manage PFAS as a chemical class. Doing so will make it possible to more quickly and easily eliminate their use, clean up current contamination, and reduce harm.

ENDNOTES

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