PFAS
FACT SHEET

CASA
CALIFORNIA ASSOCIATION OF SANITATION AGENCIES

What Are PFAS?

Per and polyfluoroalkyl substances (PFAS)[1] are a group of man-made fluorinated compounds which are used for a variety of applications by both industry and residential households. These chemicals are widely used because they are resistant to heat, water, and oil. **PFAS are commonly found in every American household, and in products as diverse as:**

PFAS have been in commercial use since the 1940's and are abundant in today's society. Two of the most common types (PFOS and PFOA) were phased out of production in the United States in 2002 and 2015 respectively, but are still present in some imported products. PFOA and PFOS are found in every person's blood stream in the parts per billion range, though those concentrations have decreased by 70% for PFOA and 84% for PFOS between 1999 and 2014, which coincides with the end of the production and phase out of PFOA and PFOS in the United States.[2]

PFAS Are Ubiquitous in Our Homes and Our Environment

Several recent legislative and regulatory efforts across the US to address PFAS have focused on limiting levels in drinking water. However, there has been relatively little conversation about the presence of these chemicals in our everyday lives. In several studies, the mean and median concentration of PFOA in household dust in the United States was found to be between roughly 10,000 and 50,000 parts per trillion (ppt)[3]. **This means there is significantly more PFAS in the ambient dust in the average home than the levels currently being discussed as thresholds for drinking water.** Not only are PFAS part of the air we breathe and the products we use, but they have also been found in the food we eat. In other words, there are numerous human exposure pathways for PFAS beyond drinking water.

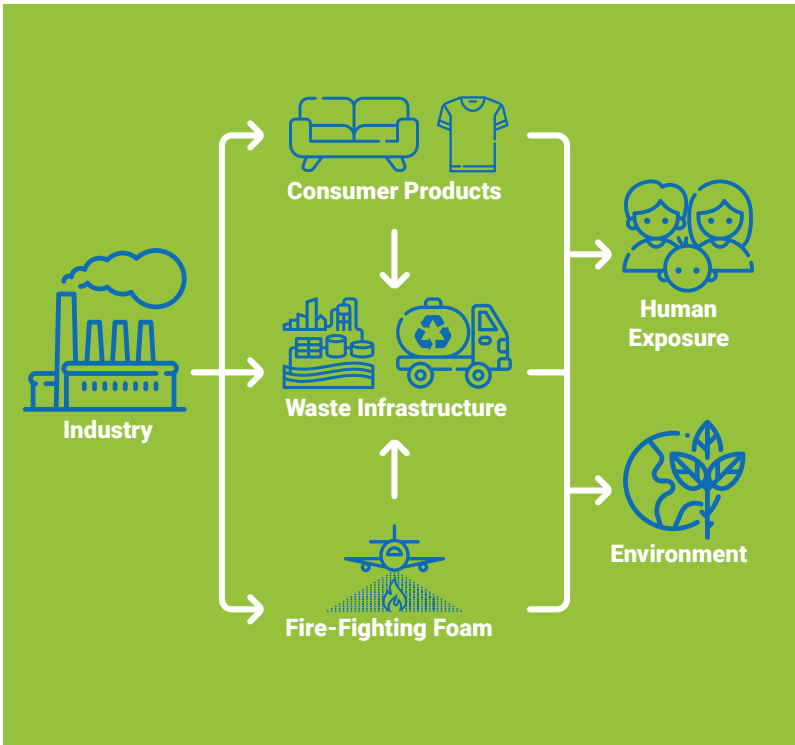
Importance of Human Health Protection

Agencies providing essential public services such as safe drinking water, wastewater treatment, water recycling, and biosolids recycling firmly believe in our **collective mission to ensure safe drinking water and sanitation services.** We also acknowledge and embrace our role as environmental and public health stewards and the responsibility of providing a healthy and clean environment now and for future generations. To that end, agencies would be in support of actions and regulations intended to ensure delivery of those services as long as they are based on credible science and developed after due deliberation. There is concern that in the case of PFAS, notification levels, thresholds, and in some cases limits are being developed in advance of the scientific and public process.

PFAS Producers and Heavy Users Are Not the Same as PFAS "Receivers"

Drinking water treatment systems and wastewater treatment facilities are not "producers" or users of PFAS, and **none of these essential public service providers utilize PFAS chemicals. Rather, they are "receivers" of these chemicals used by manufacturers and consumers, and merely convey or manage the traces of PFAS that we encounter in our daily lives.**

In order to address the true sources of these chemicals, discontinuation of production and use (both domestic and foreign) is necessary at manufacturing facilities and heavy use areas such as firefighting training sites. As long as PFAS are elements of products used in our everyday lives, and as long as background levels resulting from decades of manufacturing and use persist, they will continue to be found in the "receiver" streams.



Placing PFAS in Context: Distinguishing Contaminated Sites and Background Levels

Recent legislative and regulatory efforts to address PFAS have tended to not differentiate between concentrations at producer and heavy user contaminated sites and common background levels in drinking water, groundwater, recycled water, wastewater, or biosolids. The levels of PFAS found in these two scenarios are dramatically different. Sites found near manufacturers of PFAS can have levels of contamination at 100,000 to 500,000 ppt. At fire-fighting training sites, including military complexes, levels can be as high as 6,950,000 ppt.[4] In these circumstances, it is clear that the producers and heavy users of PFAS have caused or contributed to the contamination of sites that need to be addressed. **In contrast, the action levels currently being discussed for drinking water systems range from 5–40 ppt, an exceptionally small fraction of the concentrations found at highly contaminated sites.**

Because of this vast disparity in relative contributions, product manufacturer responsibility and stewardship, as well as cleanup and remediation at highly contaminated sites, are the most efficient and effective methods of addressing these chemicals and protecting human health and the environment.

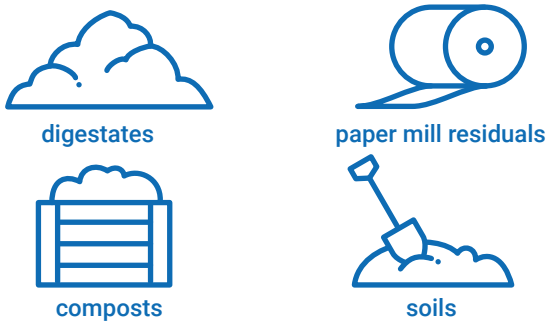
Drinking Water Thresholds and Unintended Consequences

The USEPA has set an advisory level of 70 ppt individually or combined for PFOA and PFOS in drinking water and is currently evaluating the need to develop maximum contaminant levels (MCL) for these and possibly other PFAS compounds. **For perspective, one part per trillion is the equivalent of four grains of sugar in an Olympic sized swimming pool, or the equivalent of one second in 32,000 years.** Even as EPA's work continues, states have begun setting their own PFAS standards for drinking water at a rapid pace and without following some of the usual regulatory and scientific review and public involvement procedures.

The public and political concern about PFAS is leading several states to move forward with regulatory standards or notification levels while the science is still developing. For example, the California State Water Board has established notification levels of 6.5 ppt for PFOS and 5.1 ppt for PFOA in drinking water, while other states have adhered to the USEPA health advisory level of 70 ppt for both combined. States adopting different standards for the same compounds can create confusion and risks undermining public confidence at a time when greater consistency is needed. **In fact, stringent state requirements could have significant unintended impacts on public municipalities and individuals, as numerous public systems could be deemed unusable and/or need to install expensive additional treatment systems.**

Background Levels of PFAS in Wastewater Effluent, Recycled Water and Biosolids

Strict PFAS standards for drinking water could also ultimately impact discharge limits on wastewater treatment plants, recycled water, and biosolids. Because PFAS are ubiquitous in households, consumer products, food, and the environment generally, they will typically make their way into the wastewater stream. After treatment, trace amounts of PFAS may also be found in biosolids. Of course, PFAS are also found in:



Given the ubiquity of PFAS, and the comparative background levels which may be found in wastewater and biosolids, setting requirements near analytical detection limits on these sources may not provide a discernable benefit to public health.

A Measured, Scientifically Sound Response to PFAS Contamination is Needed

Legislators, regulators, drinking water agencies, wastewater agencies, and others should work collaboratively to examine how to deal with PFAS holistically, with science guiding the decision making. We acknowledge and embrace our role as public health and environmental stewards to ensure safe drinking water and sanitation services. However, we know that science is still evolving to understand the fate, exposure, and toxicity of PFAS from environmental media, and the basic analytical methods needed to study these chemicals are still in development for media other than drinking water. Even the extent of human health impacts is not fully understood. This underscores the need to better understand the science and real world risk before setting exceedingly stringent thresholds or limits.

The goal should be to determine the most effective steps needed to reduce human exposure and implement them within the broad context of protecting human health. This requires differentiating high concentration sites from background concentrations and taking action to mitigate concentrations at high use sites. It also demands both a reassessment of products we produce and use daily, and a realistic assessment of how much any action is able to control PFAS already in the background environment. The most significant action we need to take today is to remove these chemicals of concern from the stream of commerce. Source reduction and pollution prevention can serve as the most efficient means of addressing persistent background presence of PFAS and effectively limit the occurrence of PFAS going forward.

1. PFAS is the broader class of chemicals that includes PFOA, PFOS, and many others.
2. Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (January 2019). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. cdc.gov/exposurereport
3. Trudel et al., Risk Analysis Vol. 28 No. 2, 2008
4. ewg.org/interactive-maps/2019_pfas_contamination/map

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