PFAS Health Advisories for PFOA, PFOS, GenX, PFBS
Detailed Questions and Answers
Planned Release Date: June 15, 2022
NOT TO BE POSTED PUBLICLY – TO BE SHARED WITH FEDERAL AGENCIES, STATES AND USE FOR PRESS INQUIRIES IF ASKED

EXPOSURE AND TREATMENT

1. **Based on the new health advisories, is it safe to drink from my water system?**
   Each water system is unique, and individuals should seek information specific to their local community. We know that the lower the levels of PFOA and PFOS, the lower the risk. If water systems find PFAS in their drinking water, EPA is recommending those utilities conduct additional monitoring, inform their customers and consider taking actions to reduce PFAS levels in their drinking water, as outlined in the health advisories.

   Treatment technologies can remove PFAS from drinking water. That's why EPA is also announcing $1 billion in annual grant funding for the next five years through the Bipartisan Infrastructure law to reduce PFAS and other emerging contaminants in drinking water in small and disadvantaged communities.

   EPA's lifetime health advisories identify levels to protect all people, including sensitive populations and life stages, from adverse health effects resulting from a lifetime of exposure to these PFAS in drinking water. EPA's lifetime health advisories also take into account other potential sources of exposure to these PFAS beyond drinking water (for example, food, air, consumer products, etc.), which provides an additional layer of protection.

2. **How many communities have PFAS in their drinking water at levels greater than the new health advisories?**
   As an emerging contaminant, national data on PFAS exposure are limited. With EPA's new health advisories, states and utilities are encouraged to collect data on PFAS that will contribute to more comprehensive national data and stronger public health solutions. Starting in 2023, EPA will conduct nationwide testing for PFAS as part of the fifth Unregulated Contaminant Monitoring Rule (UCMR5), which will contribute to a more holistic understanding of the scope and scale of national PFAS exposure.

   Some states, especially states that have already taken action to monitor and regulate these chemicals, may have more comprehensive state-level data on the presence of these chemicals than states that have not yet taken similar actions. This does not necessarily mean that these states have higher levels of PFAS in their drinking water but reflects that they have more information from the extensive monitoring already in place.

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3. **If PFOA and PFOS health advisory levels are lower than detectable levels and testing in a water system indicates no detectable PFAS, what should I do? How can I be sure PFAS levels are below the health advisory levels?**
   We know that the lower the levels of PFOA and PFOS, the lower the risk. This means that while trace amounts of PFOA and PFOS may be present in concentrations that cannot be measured, water provided by these systems is of lower risk than if more PFOA and PFOS were found. EPA is working to understand more about the amounts of PFAS in drinking water that are of public health concern. At this time, EPA is advising water systems without detectable levels of PFOA and PFOS to continue to monitor for PFAS if they are concerned about potential contamination, but EPA is not recommending additional actions.

   Public water systems that find PFAS in their drinking water should take steps to inform customers, undertake additional sampling to assess the level, scope, and source of contamination, and examine steps to limit exposure. The health advisories include information about monitoring and treatment technologies that water systems can consider. While water systems may not be able to eliminate all risks from PFOA and PFOS, they can take steps to reduce those risks. This situation is not unique, and the Safe Drinking Water Act recognizes that feasibility is a factor for drinking water regulations. There are a number of contaminants for which it is not feasible to eliminate all risks with an enforceable standard.

4. **How do PFAS get into my drinking water?**
   The most common sources of PFAS contaminants in drinking water include:
   - Manufacturing processes or chemical production facilities that produce or use PFAS
   - Fire extinguishing foam - in aqueous film-forming foams (or AFFFs) used to extinguish flammable liquid-based fires.
   - Landfills, disposal sites, and hazardous waste sites
   - Biosolids applied to agricultural land

5. **Who do I contact to find out more information about water quality where I live?**
   If you are concerned about PFAS in your drinking water, EPA recommends you contact your local water utility to learn more about your drinking water and to see whether they have monitoring data for PFAS or can provide any specific recommendations for your community.

   If you own a home drinking water well, EPA recommends learning more about how to protect and maintain your well for all contaminants of concern. For information on home drinking water wells visit: www.epa.gov/safewater.

   Additionally, if you are concerned about levels of PFAS found in your drinking water, consider actions that may reduce your exposure including installing a home or point of use

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filter or using an alternative water source, if possible, while steps are being taken to further understand levels of concern and potentially regulate PFAS at the national level.

6. **Does EPA recommend providing alternative water to communities served by systems that detect PFOA or PFOS, or have levels of GenX or PFBS above health advisory levels?**
These health advisories are non-enforceable and non-regulatory. However, to reduce exposure EPA recommends that communities and water systems that measure any levels of PFOA or PFOS, or that measure Gen X chemicals or PFBS at levels higher than the health advisory levels, inform their customers and consider taking actions to reduce PFAS levels in their drinking water by installing treatment technologies or obtaining a new uncontaminated source of drinking water, if available.

   Individuals who are concerned about PFAS in their wells or in their homes may consider in-home water treatment filters that are certified to lower the levels of PFAS in water. You can find more about these filters at: https://www.epa.gov/sciencematters/epa-researchers-investigate-effectiveness-point-usepoint-entry-systems-remove-and.

   Communities interested in installing treatment can apply for funding for new infrastructure through their drinking water state revolving loan fund (SRF) program and through the new BIL Emerging Contaminants Program for small or disadvantaged communities.

7. **What treatment technologies exist to remove PFOA, PFOS, GenX chemicals, and PFBS?**
Activated carbon, anion exchange and high-pressure membranes have all been demonstrated to remove PFAS from drinking water systems. Additionally, concerned individuals may consider installing in-home filters to lower PFAS in their water. Each of the four health advisory documents identifies the treatment technologies that have been demonstrated to remove the specific PFAS and the factors that impact performance of the technologies.

8. **What actions does EPA recommend for schools and child-care facilities to protect children from PFAS (testing, treatment, etc.)?**
Most schools and childcare facilities are served by public water systems and should contact their water system regarding any testing or treatment the system is performing. Schools and childcare facilities that operate their own water system should consider testing their water and taking actions based on the results of that testing.

9. **EPA is recommending consumers consider certified home treatment or point-of-use (POU) devices for water containing PFOA and PFOS, but the certification standards for these devices only test their ability to lower these contaminants to 70 ppt. Will these POU devices remove PFOA and PFOS to lower levels?**
EPA has consulted with NSF International, the ANSI designated organization that develops standards for drinking water treatment units, and they are working to develop new more stringent certification standards for testing home treatment systems for the removal of

PFAS from drinking water. While these certification standards are being developed and implemented, EPA notes that recent research has found that GAC and RO systems studied were able to reduce PFAS to below laboratory detection limits when used as point-of-entry (where the water enters the whole house) or point-of-use (where water is used in the house, for example a kitchen sink or a bathroom sink) systems. However, water quality conditions, concentrations of PFAS in the water, and operational conditions were shown to affect each of the systems and their effectiveness. For more information, visit: https://www.epa.gov/sciencematters/epa-researchers-investigate-effectiveness-point-usepoint-entry-systems-remove-and.

10. **Does EPA recommend bottled water distribution in communities with PFAS Contamination?**
The agency notes that the U.S. Food and Drug Administration has not established standards for contaminants such as PFAS in bottled water. At this time, EPA is not recommending bottled water for communities based solely on concentrations of these chemicals in drinking water that exceed the health advisory levels. States and affected systems should evaluate additional criteria, such as the levels of PFOA, PFOS, GenX chemicals, PFBS or other PFAS and the length of time the contamination has been present, to determine when provision of alternative waters may be appropriate.

We know that the lower the levels of PFOA and PFOS, the lower the risk. Therefore, EPA recommends that communities and water systems that measure any levels of PFOA or PFOS or that measure Gen X chemicals or PFBS at levels higher than the health advisory levels inform their customers and consider taking actions to reduce PFAS levels in their drinking water by installing treatment technologies or obtaining a new uncontaminated source of drinking water, if available.

Individuals who are concerned about PFAS in their wells or in their homes may consider in-home water treatment filters that are certified to lower the levels of PFAS in water. You can find more about these filters at: https://www.epa.gov/sciencematters/epa-researchers-investigate-effectiveness-point-usepoint-entry-systems-remove-and.

11. **Does EPA have disposal guidance, especially regarding higher volumes of used carbon filters?**
A facility that has spent carbon filters or other media from treating PFAS chemicals and/or other contaminants must make a waste determination on the spent carbon filter. If the spent carbon filter was only used to treat PFAS chemicals, it is likely not a hazardous waste at this time. For spent carbon filters used for only treating PFAS chemicals, we recommend consideration of the "Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances." In this guidance, EPA notes that thermal treatment techniques, including carbon reactivation, have the highest uncertainty with respect to the potential for waste management activities to prevent PFAS migration to the environment. EPA and partners are undertaking research to address these uncertainties, and in the interim EPA encourages the

manager of PFAS-containing materials to consider temporary storage prior to thermally treating the waste. In addition, there is information in this guidance looking at disposal (e.g., landfilling), thermal treatment, and reactivation of spent granular activated carbon that may be of use to facilities determining how best to manage their waste. If the carbon filter was used to treat other chemicals in addition to PFAS, the spent filter could be a hazardous waste depending on the classification of those chemicals.

POLICY AND SCIENCE

1. **What's the difference between a health advisory and a Maximum Contaminant Level (MCL)?**
   An MCL or maximum contaminant level is a regulatory drinking water standard. An MCL is the legally enforceable, maximum amount of a contaminant that can be present in water, which is delivered to any user of a public water system. EPA establishes MCLs as close as feasible to the health based Maximum Contaminant Level Goal (e.g., health-based goal), after taking costs, benefits, and public comments into consideration.

   Health advisories are not regulatory and are not legally enforceable. Health advisories reflect EPA's assessment of health risks of a contaminant based on the best available science. Unlike regulatory maximum contaminant levels under the Safe Drinking Water Act, health advisories are not based on any consideration of the feasibility, costs or benefits of reducing contaminant levels.

2. **How do these new health advisories (or the underlying science) apply to the agriculture sector – irrigation water, biosolids, water fed to livestock, etc.?**
   The health advisories were calculated using the reference doses (RfDs) for people and applied to drinking water exposure. EPA's health advisories are based on drinking water consumption and household use of drinking water during food preparation (e.g., cooking or to prepare coffee, tea or soup). In the development of the health advisories, EPA took into consideration sources of exposure to these PFAS other than drinking water, including air, food, dust, and consumer products. Thus, to protect human health, the calculation of each health advisory level accounts for exposures to the chemical from a variety of sources, including food.

   Accordingly, these health advisories only apply to exposure scenarios involving drinking water and cannot be used in identifying risk levels for irrigation water, biosolids, water fed to livestock, etc. Calculation of specific risk levels for irrigation water, biosolids, water fed to livestock, etc. would require development of entirely different exposure assumptions and is not a part of the health advisory derivation methodology. EPA actively participates in interagency science and policy forums to support a whole of government approach to understanding and addressing potential risks posed by PFAS, including potential exposure pathways through agriculture and the food system.

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3. **What is the difference between a provisional health advisory (that EPA issued for PFOA/PFOS in 2009) and an interim health advisory (that EPA is issuing here)?**
   EPA develops provisional health advisories to provide information in response to an urgent or rapidly developing situation. Provisional health advisories are used when the agency is not currently planning to develop a final health advisory, maximum contaminant level goal or maximum contaminant level. Provisional health advisories provide health-based hazard concentrations for unregulated contaminants to alert health officials when action should be taken to reduce the risk of exposure in drinking water. They are updated as additional information becomes available and can be evaluated.

   EPA issues an interim health advisory when a contaminant's associated health effects assessment is in draft form, but there is a pressing need to provide information to public health officials prior to finalization of the health effects assessment. The PFOA and PFOS interim health advisories are intended to be in place during the time interval between initial understanding of health effects and publication of the final health advisory, maximum contaminant level goal (MCLG), and/or maximum contaminant level (MCL). Final health advisories are based on final health effects assessments.

4. **Is EPA going to finalize these health advisories after SAB review is complete? Does EPA plan to share any updated guidance with the public between now and finalizing a drinking water rule in late 2023?**

   EPA is reviewing and will respond to the SAB comments as the agency moves forward to develop a proposed National Primary Drinking Water Regulation for PFOA and PFOS. At that time, EPA may update or remove the interim health advisories for PFOA and PFOS based on the best available science. Because the available health effects data indicate a number of different adverse effects after exposure to concentrations of PFOA or PFOS in water that are near zero, the health-based water values are likely to remain below the detection limit.

5. **If PFOA is a likely carcinogen and PFOS is a suggestive carcinogen, why are the interim updated health advisories for PFOA and PFOS only protective of non-cancer health effects?**
   EPA's 2021 draft health effects document submitted to the Science Advisory Board (SAB) for review classifies PFOA as *likely to be carcinogenic to humans* and PFOS as *suggestive* for carcinogenicity based on EPA's *Guidelines for Carcinogen Risk Assessment*. EPA has not developed a cancer risk concentration for PFOA or PFOS in water because the cancer analyses are ongoing.

6. **Does EPA regulate PFAS levels in biosolids resulting from municipal wastewater treatment?**
   No, EPA has not established standards for PFAS in sewage sludge/biosolids. Some states may monitor for them if they are on a state-derived priority chemical list. EPA is performing

a risk assessment for PFOA and PFOS contamination of biosolids that is expected to be completed by 2024.

7. **Does EPA regulate PFAS in effluent from industrial sources under the Clean Water Act?**
   EPA does not have any national regulations pertaining to PFAS in industrial wastewater, but EPA is currently engaged in several rulemakings and studies to limit industrial discharges of PFAS from industrial sources. Information about EPA's activities to address industrial discharges of PFAS can be found in Preliminary ELG Program Plan 15 available at: https://www.epa.gov/eg/effluent-guidelines-plan.

   Additionally, in April 2021, consistent with the PFAS Strategic Roadmap, EPA issued a memo to proactively use its Clean Water Act permitting authorities to reduce discharges of PFAS at the source and to obtain more comprehensive monitoring information on potential sources of PFAS. The memo will help minimize PFAS pollution in surface water as EPA works to set effluent guidelines, develop analytical methods, and issue water quality criteria for PFAS. This memo applies to National Pollutant Discharge Elimination System (NPDES) permitting programs EPA oversees; EPA plans to issue a subsequent memo that provides guidance to state permitting authorities.

8. **Can these health advisories be applied to assess or manage risks related to exposure through ingestion of food?**
   No. The health advisories were calculated using the reference doses (RfDs) and applied to drinking water exposure. Accordingly, these health advisories only apply to exposure scenarios involving drinking water and cannot be used in identifying risk levels for ingestion of food sources, including fish, meat, and milk produced from livestock that consumes contaminated water, or crops irrigated with contaminated water. EPA's health advisories are based on drinking water consumption and household use of drinking water during food preparation (e.g., cooking or to prepare coffee, tea or soup).

   In the development of the health advisories, EPA took into consideration sources of exposure to these PFAS other than drinking water, including air, food, dust, and consumer products. To be protective of human health, the calculation of each health advisory level accounts for the exposure to the chemical from a variety of sources, including food. Calculation of specific risk levels for foods would require development of entirely different exposure assumptions and is not a part of the methodology for deriving drinking water health advisories. EPA actively participates in interagency science and policy forums to support a whole of government approach to understanding and addressing potential risks posed by PFAS, including potential exposure pathways through agriculture and the food system.

9. **Is EPA working to develop laboratory methods able to quantify PFAS below 4 ppt?**
   EPA continues to conduct research and monitor advances in analytical methodologies for improvements in analytical instrumentation and new techniques that may improve our

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ability to measure PFAS and lower PFAS measurement thresholds. A list of laboratories that met the fifth Unregulated Contaminant Monitoring Rule (UCMR 5) laboratory approval program application and proficiency testing criteria for methods 533 and 537.1 is available at https://www.epa.gov/dwucmr/list-laboratories-approved-epa-fifth-unregulated-contaminant-monitoring-rule-ucmr-5.

10. Is there information or guidance about the health effects of mixtures of PFAS in drinking water?

States and public water systems detecting multiple PFAS in finished drinking water may want to consider the draft EPA method for assessing the health risks from mixtures of PFAS that the agency's Science Advisory Board is currently reviewing. EPA's health advisory documents provide an example of how to use the draft method to assess the risk of a mixture of PFOA, PFOS, GenX chemicals, and PFBS. EPA expects to finalize the mixtures method by Fall 2022, taking into consideration Science Advisory Board input.

PFAS USAGE

1. What is EPA doing to address ongoing use of PFOA and PFOS?

PFOA

PFOA is still being used in a limited number of industries, including use in antireflective coating, light sensitive materials used in photo lithography and similar processes, surfactant for use in photomicrolithography, and other processes to produce semiconductors or similar components of electronic or other miniaturized devices.

To limit the use of PFOA, in 2006, EPA invited eight major companies to commit to working toward the elimination of their production and use of PFOA (and chemicals that degrade to PFOA) from emissions and products by the end of 2015. All eight companies have phased out PFOA. EPA amended the 2013 Long Chain Perfluoroalkyl Carboxylate (LCPFAC) Significant New Use Rule in July 2020, in which EPA determined that manufacturing (including importing) or processing of PFOA or its salts for any use not ongoing as of Jan. 21, 2015, is a significant new use. EPA also made inapplicable the exemption for persons who import a subset of LCPFAC chemical substances as part of surface coatings on articles. The subset of LCPFAC chemical substances for which the exemption was lifted includes PFOA and its salts. This rule will ensure that EPA receives notice and has an opportunity to review any efforts to reintroduce PFOA into the marketplace and take action, as necessary, to address potential concerns.

PFOS

3M, the primary manufacturer of PFOS in the U.S., phased out its production of PFOS between 2000 and 2002. Subsequently, EPA published a Significant New Use Rule (SNUR) in December 2002 for Certain Perfluoroalkyl Substances. The SNUR limits future

manufacturing, including importation, of 75 PFAS chemicals specifically included in the voluntary phase out of PFOS by 3M without first submitting a notice to EPA and having EPA review the new use. A limited set of existing uses for PFOS, such as use in fire-resistant aviation hydraulic fluids, photography and film products, photomicrolithography process to produce semiconductors, metal finishing and plating baths, and component of an etchant were excluded from the reporting requirement because these uses were ongoing and are therefore outside the scope of the SNUR authority (see 40 CFR § 721.9582).

PFOS was often used as an ingredient in aqueous film-forming foam for firefighting, and legacy stocks of this firefighting-foam concentrate may still exist. Federal agencies such as the Department of Defense and the Federal Aviation Administration are working to replace these legacy foams with PFOS- and PFAS-free alternatives.

2. **PFOA was supposed to be phased out by the end of 2015. If that's the case, why is it still showing up in drinking water?**
   Though the manufacture (including import) of PFOA has been phased out in the United States as part of the PFOA Stewardship program, existing stocks of PFOA might still be used, and there might be PFOA in some imported articles (e.g., in antireflective coatings) for which ongoing uses were identified (see 40 CFR § 721.10536). These existing stocks and imported articles may be an ongoing source of PFOA in drinking water. In addition, PFOA may be present in drinking water due to its environmental persistence, formation from precursor compounds, continued production by international manufacturers, and as a result of the large legacy production and use in the United States, beginning in the 1950s.

3. **Does EPA allow for any uses of PFOA/PFOS today?**

PFOA

EPA launched the PFOA Stewardship Program in January 2006 to work toward eliminating PFOA from emissions and product content no later than 2015. Though PFOA is no longer used in the United States to manufacture fluoropolymers, some fluoropolymers containing PFOA were outside the scope of the Long Chain Perfluoroalkyl Carboxylate (LCPFAC) SNUR because there were ongoing uses and may still be imported as part of articles. Fluoropolymers are used in many industry segments, including the aerospace, automotive, building/construction, chemical processing, electronics, semiconductors, and textile industries (see 40 CFR § 721.10536).

PFOS

With regard to perfluorooctanyl sulfonate (PFOS), on May 16, 2000, EPA and 3M, the principal worldwide manufacturer of PFOS, announced the voluntary phase out of PFOS chemistry. Following the voluntary phaseout of PFOS by 3M, EPA took prompt regulatory actions in 2002 and 2007 under the Toxic Substances Control Act to limit any future manufacture or importation of 271 perfluoroalkane sulfonate (PFSA) chemicals,

essentially encompassing all PFAS chemicals on the U.S. market. Chemical Data Reporting (CDR) requires manufacturers (including importers) to report PFOS if they meet 2,500 lbs production volume threshold at a single site. The last time PFOS manufacture was reported to EPA as part of this data collection effort was in 2002. There are some limited ongoing uses of PFOS (e.g., use as a component of a photoresist substance, use as a component of an anti-reflective coating, use in a photomicrolithography process to produce semiconductors (see 40 CFR §721.9582). So, any PFOS potentially still in use is in very small quantities.

4. **What is the prevalence of imported goods containing PFOA or PFOS and how does EPA track that?**
EPA does not have a specific mechanism for tracking the import of articles containing PFOA or PFAS. However, in 2020, EPA issued the Long Chain Perfluoroalkyl Carboxylate (LCPFAC) Significant New Use Rule (LCPFAC SNUR). The rule requires notice and EPA review before the long-chain PFAS that have been phased out in the United States could be used again. Additionally, articles containing certain long-chain PFAS as a surface coating, and carpet containing perfluoroalkyl sulfonate chemical substances, can no longer be imported into the United States without EPA review.

EPA has proposed a rule in accordance with TSCA section 8(a)(7) to require reporting and recordkeeping on PFAS. This proposed rule would require certain persons who have manufactured (including imported) a PFAS at any time since 2011 to submit certain information to EPA related to chemical identity, categories of use, volumes manufactured and processed, byproducts, environmental and health effects, worker exposure and disposal.

5. **What are the uses of GenX chemicals?**
Gen X comprises two substances: a free carboxylic acid (CASRN 13252-13-6) and the corresponding ammonium salt (CASRN 62037-80-3).

ID	CASRN	casregno	ChemName	DEF	UVCB	FLAG	ACTIVITY
18377	13252-13-6	13252136	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-			PMN; 5E	ACTIVE

ID	CASRN	casregno	ChemName	DEF	UVCB	FLAG	ACTIVITY
32393	62037-80-3	62037803	Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, ammonium salt (1:1)			PMN; 5E	ACTIVE

According to the information submitted in pre-manufacture notices to EPA, both substances are used as polymerization aids. These aids are used to make chemical manufacturing processes more efficient. The free acid is also used as a chemical intermediate.

The previous three Chemical Data Reporting (CDR) cycles for GenX (non-CBI) also indicate that it is used as a processing aid and chemical intermediate:

Processing/use	Industry Sector
Processing aid, not otherwise listed	Plastic material/resin manufactured
Processing aid, not otherwise listed	All other basic organic chemical manufacturing
Intermediate	Plastic material/resin manufactured

You can visit EPA's website for information about the toxicity assessment for GenX chemicals. The GenX chemicals are also on the TSCA Inventory, in ChemView and in the 2020 Toxics Release Inventory.

6. What are the uses of PFBS?

EPA has very limited information on the uses of PFBS. The information the agency has indicates that it is an impurity or feedstock in manufacturing processes. EPA added PFBS (CASRN 375-73-5) to the original TSCA Inventory in 2021. Since EPA initiated the action, a pre-manufacturing notice with use information was not submitted.

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ID	CASRN	casregno	UID	EXP	ChemName	DEF	UVCB	FLAG	ACTIVITY
1082	375-73-5	375735			1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-				ACTIVE

PFBS has no Chemical Data Reporting rule reports for any reporting year, although it was eligible for CDR reporting in 2020. There are a variety of situations that would result in no reporting. These include that the chemical was not domestically manufactured or imported, the site-specific production volume was below the reporting threshold, or the chemical was manufactured in a manner that was exempt from reporting (e.g., if produced as a byproduct and burned as a fuel or disposed of as a waste or if imported as an impurity or as part of an article).

EPA has received some TSCA section 8(e) submissions on PFBS unrelated to use. Section 8(e) of TSCA requires U.S. chemical manufacturers, importers, processors and distributors to notify EPA within 30 calendar days of new, unpublished information on their chemicals that may lead to a conclusion of substantial risk to human health or to the environment. EPA makes 8(e) submissions available in ChemView.

EPA's review of past PMNs and Low-Volume Exemptions (LVEs) for substances other than PFBS show that PFBS was listed as an impurity or feedstock in 13 cases.

7. Why does EPA keep approving new PFAS for use in the U.S. if we know they are toxic?
EPA understands and shares the interest in preventing unsafe new PFAS from getting into commerce.

Under the Toxic Substances Control Act (TSCA), EPA's New Chemicals Program reviews new chemical substances, including PFAS, before they enter the marketplace. Anyone who plans to manufacture or import a PFAS substance that is not already on the TSCA inventory for a non-exempt commercial purpose must first submit either a pre-manufacture notice or an exemption request (based on low volume or low releases/low exposures) prior to entering commerce.

In April, EPA announced that we would generally expect to deny requests for certain exemptions for new PFAS because they don't provide time for a sufficiently robust review. This policy change will ensure that if new PFAS are allowed to enter commerce, EPA will have reviewed all intended, known, and reasonably foreseen conditions of use and that these chemicals will not enter commerce absent appropriate and enforceable protections for human health, including that of workers, and the environment.

EPA also thinks it is very important to revisit past decisions that may not have been as protective as they could have been. Over the past decades, some PFAS were allowed into commerce without sufficient environmental protections. That's partly because EPA didn't know as much about PFAS decades ago, partly because the 2016 changes to TSCA ensured that all new chemicals get a full safety review, and partly because PFAS already on the market in 1976 were "grandfathered" in under the original TSCA without any review at all. As the agency evaluates new PFAS or new uses of old PFAS, we will be ensuring that our air and water won't be polluted by these new substances or uses. As described in the Agency's PFAS Strategic Roadmap, EPA plans to leverage its authorities to revisit past PFAS regulatory decisions and address those that are insufficiently protective, such as by imposing additional notice requirements to ensure the Agency reviews significant new uses of previously assessed PFAS before they are used in new ways that might present concerns. To do this, EPA is currently developing significant new use rules (SNURs) for approximately 150 PFAS that were subject to certain restrictions under consent orders.

As we evaluate new PFAS or new uses of old PFAS, EPA will ensure that our air and water won't be polluted by these new substances or uses and that all future new chemicals decisions for PFAS are sufficiently protective. This is important because if we don't approve protective replacements, hundreds of older, unreviewed and unrestricted substances could be left in commerce with nothing safer to take their place.

SUPERFUND/FEDERAL FACILITIES

1. **Why is EPA using the Agency for Toxic Substances and Disease Registry (ATSDR) values for Regional Screening Levels (RSLs) and Removal Management Levels (RMLs) for PFOA and PFOS instead of the more health protective and recently published EPA values based on human epidemiological studies?**

   In general, draft toxicity assessments are not used in setting the RSL and RMLs. Per EPA guidance, RSLs and RMLs under CERCLA generally use peer reviewed, publicly available toxicity values, such as the ATSDR values, which are used for the RSLs and RMLs. Since the science of PFAS toxicity is evolving, and RSLs and RMLs are updated semi-annually, EPA expects to update the numbers as needed.

2. **Since the Interim updated health advisories for PFOA and PFOS are below the analytical method minimum reporting level (4 ppt), how will these interim updated health advisories affect cleanup levels at Superfund sites?**
   The Agency's scientific work to develop health advisories for PFOA or PFOS will help inform investigations at Superfund sites. If the Agency determines a long-term cleanup action is warranted, the health advisory information will be considered in developing appropriate remedial goals based on site-specific information. Superfund risk assessments generally consider all potential exposure pathways, including drinking water and soil ingestion, to develop risk-based cleanup levels that are protective of human health.

3. **Will EPA update the Regional Screening Levels (RSLs) to reflect the Interim updated health advisories?**
   Health Advisories are not used for screening. Health Advisories are considered in developing remedial goals if the Agency determines that long-term cleanup action is warranted. Health Advisories are considered and informative during the Superfund process. However, as neither interim nor final health advisories are regulatory numbers, they are not applicable or relevant and appropriate requirements (ARARs) and not necessarily used for cleanup goals. In general, draft toxicity assessments are not used within the Superfund program. The Superfund program updates its screening levels twice a year, and when the toxicity values used for the interim health advisories are finalized, they may be used to update the

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screening levels. EPA recently added five PFAS chemicals to the list of RSLs and RMLs: https://www.epa.gov/newsreleases/epa-adds-five-pfas-chemicals-list-regional-screening-and-removal-management-levels

4. **Will EPA be updating its 2019 interim groundwater cleanup guidance to reflect the levels of EPA's new interim health advisories?**
   The screening and PRG levels in EPA's 2019 interim groundwater cleanup guidance no longer apply, since EPA released new Regional Screening Levels (RSLs) and Removal Management Levels (RMLs) for PFOA and PFOS.

   As to whether EPA will be updating its 2019 interim groundwater cleanup guidance for PFOA and PFOS to reflect these updates – the agency is in the process of determining the impacts of the RSL updates on the 2019 memo and considering next steps.

ENFORCEMENT

1. **Are the new interim Health Advisories enforceable?**
   EPA's health advisories are non-enforceable and non-regulatory. They provide technical information to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. However, EPA is in the process of establishing a national primary drinking water regulation for PFOA and PFOS that would set enforceable limits and require monitoring of public water supplies. In developing this rule, the Agency is also evaluating additional PFAS and groups of PFAS. EPA plans to propose a regulation by the end of 2022 and to finalize the regulation by the end of 2023.

2. **Are there any existing SDWA § 1431 orders that address PFAS contamination? What is the difference between the communities with PFAS contamination addressed through these orders and communities that detect PFAS in drinking water?**
   Yes, there are existing SDWA § 1431 orders that address PFAS contamination. Those orders were based on a variety of site-specific information that warranted action by the Agency at the time. EPA cannot speculate on future enforcement actions, but EPA will continue to work with states and to assess each situation based on the facts specific to that location.

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