Regulation of Per- and Polyfluoroalkyl Substances (PFAS)

1 Introduction

PFAS regulation is an area of rapidly changing information. Human health protection is the primary focus of the regulations, guidance, and advisories developed to date. Available regulatory and guidance values developed by federal, state, and international authorities for PFAS in water and soil are summarized in the regularly updated PFAS Water and Soil Value Tables found at https://pfas-1.itrcweb.org/fact-sheets/. The PFAS regulatory values and criteria vary between programs due to the selection and interpretation of different key toxicity studies, exposure assumptions, choice of uncertainty factors, and approaches used for animal-to-human extrapolation. A PFAS Regulatory Programs Summary Table (see the External Data Tables on https://pfas-1.itrcweb.org). Additional information is available in the Guidance Document.

ITRC has developed a series of fact sheets that summarizes recent science and emerging technologies regarding PFAS. The information in this and other PFAS fact sheets is more fully described in the ***ITRC PFAS Technical and Regulatory Guidance Document (Guidance Document)*** (*https://pfas-1.itrcweb.org/*).

This fact sheet highlights:

- Federal regulatory programs
- State regulatory programs
- Available regulations, advisories, and guidance

2 United States Federal Programs

Federal environmental legislation, including that for PFAS, primarily falls under the responsibility of the U.S. Environmental Protection Agency (USEPA). The USEPA's efforts and future priorities can be found in its PFAS Strategic Roadmap (https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024).

Other U.S. federal agencies and programs are also actively involved in PFAS-related matters. For example, the U.S. Centers for Disease Control and Prevention (CDC) National Health and Nutrition Examination Survey (NHANES) program has been assessing the exposure of the U.S. population to certain PFAS since 1999, and in recent years expanded their analysis to evaluate certain PFAS in urine (Kato et al. 2018). The U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR) has funded studies to assess exposure and health effects of PFAS (https://www.atsdr.cdc.gov/pfas/index.html). Through SERDP and ESTCP, the U.S. Department of Defense (DOD) funds projects to assess PFAS occurrence, fate and transport, ecotoxicity, and remediation, as well as the efficacy of fluorine-free firefighting foams (https://www.serdp-estcp.org/Featured-Initiatives/Per-and-Polyfluoroalkyl-Substances-PFASs).

USEPA Programs

Safe Drinking Water Act (SDWA). The SDWA protects public drinking water supplies in the United States (USEPA 1974). The USEPA has not established legally enforceable regulations for any PFAS under the SDWA; however, national drinking water standards for PFOA and PFOS are expected in fall of 2022. Under the SDWA, USEPA has published a number of health advisories (HAs), which are not legally enforceable, for PFAS. (https://www.epa.gov/sdwa/drinking-water-health-advisories-has). The Unregulated Contaminant Monitoring Rule (UCMR) program requires monitoring for select unregulated priorty pollutants in public drinking water every five years; 29 PFAS will be included in the 2022–2026 phase.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)—"Superfund." As of June 2022, no PFAS are listed as CERCLA hazardous substances. However, the USEPA is planning to designate PFOA and PFOS as hazardous substances under CERCLA sometime in 2022 (https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/15/fact-sheet-biden-harris-administration-combatting-pfas-pollution-to-safeguard-clean-drinking-water-for-all-americans/).

Toxic Substances Control Act (TSCA). TSCA authorizes the USEPA to require reporting, record keeping, testing, and restrictions of chemicals and chemical mixtures that may pose a risk to human health or the environment. With the 2020 passage of a supplemental significant new use rule (SNUR), the USEPA now restricts the manufacture, use, and import of hundreds of long-chain PFAS (https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfas).

Toxics Release Inventory (TRI) Program. The TRI program requires that companies annually report the environmental release of certain chemicals that the USEPA has concluded cause cancer, significant acute adverse human health effects, or significant adverse environmental effects. In 2020, the TRI program added 172 PFAS to the list of chemicals with reporting requirements (https://www.epa.gov/toxics-release-inventory-tri-program/implementing-statutory-addition-certain-and-polyfluoroalkyl). The USEPA also developed a National PFAS Testing Strategy designed to help the agency

identify and select PFAS for which the agency will require testing using their authority under TSCA (https://www.epa.gov/system/files/documents/2021-10/pfas-natl-test-strategy.pdf).

Resource Conservation and Recovery Act (RCRA). RCRA provides the USEPA with the authority to regulate hazardous waste management, nonhazardous solid waste facilities and practices, and underground storage tanks holding petroleum or certain hazardous substances. As of June 2022, no PFAS have been formally listed as RCRA hazardous waste for regulation under this program.

Clean Water Act (CWA). The CWA gives the USEPA authority to control water pollution by regulating discharges into the nation's surface water, with wastewater standards for industry. There are presently no enforceable PFAS federal water quality regulations. However, the USEPA is planning such limits through programs such as the Effluent Limitations Guidelines (ELG) and the National Pollutant Discharge Elimination System (NPDES) permits (see USEPA Strategic Roadmap at the link above for more details).

Clean Air Act (CAA). There are no federal air emission standards for PFAS at this time, although the USEPA is actively developing the technical basis for regulating specific PFAS as hazardous air pollutants in the future, as described in the PFAS Strategic Roadmap, at the link above.

US Food and Drug Administration (FDA) Programs. The FDA regulates certain PFAS used as grease-proofing agents for food packaging. The FDA has banned three legacy perfluoroalkyl ethyl compounds from use in food packaging material (81 FRN 5, Jan. 4, 2016). In July 2020, the FDA announced that three manufacturers would voluntarily phase out food contact substances that contain certain PFAS begining in January 2021. A fourth manufacturer previously stopped U.S. sales of specific PFAS-containing products. Certain side-chain acrylate and methacrylate fluoropolymers are currently approved and used in food contact materials.

National Defense Authorization Act (NDAA). The annual NDAA has required DOD to comply with PFAS-related requirements for the past several years. Most recently, the NDAA for fiscal year 2022 contains additional PFAS-related components, including a temporary moratorium on incineration of AFFF generated by DOD (https://www.congress.gov/bill/116th-congress/senate-bill/1790/text).

3 State Programs

Several state regulatory agencies have been actively addressing PFAS contamination across multiple regulatory programs. Examples of key state programs for PFAS as of June 2022 are product labeling, consumer protection laws, and designation as hazardous waste or hazardous substance. A PFAS Regulatory Programs Summary Table hs been developed (see the External Data Tables on https://pfas-1.itrcweb.org). The focus of this table is on PFAS regulations that have been enacted by any of the states or territories of the United States. The table also includes state programs that may not be mandated by a specific regulation, but that state agencies are pursuing on a discretionary basis. This table does not include numeric criteria, but instead describes the type of regulation or program, and provides a link to the applicable website. For specific regulatory values, see the PFAS water and soil values tables https://pfas-1.itrcweb.org/fact-sheets/.

4 References and Acronyms

The references cited in this fact sheet and further references can be found at https://pfas-1.itrcweb.org/references/.
The acronyms used in this fact sheet and in the Guidance Document can be found at https://pfas-1.itrcweb.org/acronyms/.

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