2024 Interim Guidance on the Destruction and Disposal of PFAS

Fact Sheet

U.S. Environmental Protection Agency has issued an update to the *Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)*.

The interim guidance provides recommendations for managers of PFAS and PFAS-containing materials to protect human health and the environment. It also contains a new technology evaluation framework to help analyze the safety and effectiveness of new destruction and disposal (D&D) technologies. The interim guidance does not establish requirements for destruction or disposal of PFAS materials. For more info about PFAS and what EPA is doing to address PFAS, visit EPA's *PFAS website*.

The interim guidance summarizes scientic information on current understanding of PFAS and focuses on three currently used D&D technologies[1]:

1) Underground injection (UIC)
2) Landfills
3) Thermal treatment under certain conditions, which includes incineration.

The interim guidance summarizes research needs and data gaps and calls for increased collaboration with EPA to collect data and enhance decision-making. The document also describes new EPA test methods and improved screening tools to identify and prioritize safeguards for communities located near D&D facilities that are already overburdened by pollution. Decisions regarding the management of PFAS and PFAS-containing materials are specific to each type of material and D&D option.

Key Findings in 2024:

Updated information on destruction and disposal technologies

As a general approach, EPA encourages managers of PFAS and PFAS-containing materials to use D&D options that have a lower potential for releasing PFAS to the environment as described in Section 1 of the interim guidance. In general, the following technologies (in no particular order) have a lower potential for environmental release of PFAS compared to other technologies within the categories of storage, underground injection, landfilling, and thermal treatment:

- **Interim storage with controls**: Storage is not a D&D technology but may be a short-term option. Storage may be more fitting for some PFAS materials than others. For example, EPA recommends interim storage of containerized or high PFAS-content materials. In contrast, some materials may be less fit for storage because they are continuously generated or have high-volume and low-PFAS content. With proper controls in place, interim storage can control PFAS migration (Section 1).
- **UIC–Permitted Class I non-hazardous industrial or hazardous waste injection wells:** The standards associated with the construction, operation, and monitoring of these Class I wells are designed to isolate liquid wastes deep below the land surface and ensure protection of underground sources of drinking water.

[1] For general information on these technologies, see EPA websites for *incineration* , *landfills*, and *underground injection*. Please note that these resources are not specific to PFAS and not all information in them may be relevant to PFAS D&D.

While Class I wells are an option for managing PFAS-containing fluids, this technology may not be appropriate or available everywhere (Section 3).

- **Landfills–Permitted hazardous waste landfills:** When landfill disposal is selected and PFAS concentration of the waste is relatively high, EPA recommends using a hazardous waste landfill. However, for all landfill types, new information shows landfills release more PFAS to the environment than previously thought in 2020. Hazardous waste landfills have leachate emission protections that help control environmental releases of PFAS. These controls are especially important for certain types of PFAS-containing materials that break down more easily in landfill conditions (Section 3).
- **Thermal treatment–Permitted hazardous waste combustors that operate under certain conditions:** New research since 2020 indicates that thermal treatment units operating under certain conditions are more effective at destroying PFAS and minimizing releases or exposures (Section 3). Certain hazardous waste combustors and certain granular activated carbon (GAC) reactivation units may operate under these conditions, but uncertainties remain. For example, more information is needed to determine whether harmful products of incomplete combustion or PFAS air emissions are formed by units operating at lower temperatures (e.g., municipal waste combustors).

EPA has released a new analytical test method, *OTM-50*, that will help collect more data and answer some of these questions—such as those concerning products of incomplete combustion. The updated interim guidance encourages testing with a range of methods at thermal treatment facilities before accepting large quantities of PFAS-containing materials (Section 3).

These and other technologies are discussed in the interim guidance, plus testing and research needs to improve technology performance, improve understanding of PFAS behavior, and reduce uncertainties (Section 5).

Emerging Destruction and Disposal Technologies

Many companies and researchers are developing and testing new PFAS D&D technologies. The guidance provides a technology evaluation framework to help analyze the safety and effectiveness of new D&D technologies, and notes the need for innovation, research, and validation (Section 6).

Impact on Vulnerable Communities

EPA has also shared updated tools, methods, and approaches[2] for considering the impacts of potential releases and exposure on communities located near D&D facilities (Section 4). EPA recommends using these tools to identify and consider potential impacts and ways to protect the health of nearby vulnerable populations, engage the community, and inform decision-making.

Public Input and Participation

EPA has opened a *docket* to take input on the *Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances*—Version 2 (2024). We welcome public input on how to improve the interim guidance and this fact sheet.

What's Next?

EPA and other government, academic, and private institutions will continue research to better understand PFAS D&D. EPA will review public comments, advances in research, and new science to revise the interim guidance again within three years as required in the National Defense Authorization Act (NDAA).

[2] https://www.epa.gov/ejscreen