

2022 TRI National Analysis Frequently Asked Questions

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Overview of the 2022 TRI Data

Q: What are the highlights of the data analysis for 2022?

TRI chemical wastes that are generated at facilities from ongoing, routine production operations are called production-related waste, or waste managed. These wastes are managed by any of several methods including releases to the environment, recycling, treatment for destruction or combustion for energy recovery. The total quantity of waste managed by facilities during 2022 was 28.6 billion pounds, a 2.5% decrease from 2021. Most (88%) of the 28.6 billion pounds of TRI chemical waste was managed through preferred waste management practices, such as recycling, and was not released to the environment.

From 2021 to 2022, the total quantity of TRI chemicals disposed of or otherwise released to the environment increased. Factors influencing this overall increase include:

- Total releases increased by 1% (45 million pounds).
- Releases into the air decreased by less than 1%.
- Releases into surface waters decreased by less than 1%.
- On-site disposal to land increased by 2%. The main driver of this increase was a change in TRI reporting requirements that required many natural gas processing facilities to report for the first time for 2022.

Q: Is the change in disposal or other release quantities comparable to that of prior years?

Total disposal or other release quantities of TRI chemicals increased by 1% from 2021 to 2022. Since 2013, disposal or other release quantities of TRI chemicals have decreased by 21% (875 million pounds). This long-term decrease is driven by declining releases from the electric utilities sector.

Q: What is new in this year's TRI National Analysis?

This year's National Analysis includes:

- Many natural gas processing facilities and some contract sterilization facilities that reported to TRI for the first time for 2022.
- A profile of the primary metals manufacturing sector.
- An interactive map showing where facilities reporting source reduction are located.

Q: Why does EPA include information about waste managed as well as total disposal or other releases?

Production-related waste, also called waste managed, is TRI chemical waste generated from normal or routine operations at a facility and managed by the facility through recycling, combustion for energy recovery, treatment (i.e., destruction) and/or disposal or other releases to the environment. It does not include releases of TRI chemical wastes resulting from accidents, remedial actions, catastrophic events or other one-time events not associated with normal or routine production processes.

Facilities can manage waste on site or ship it off site. The quantity of waste of a TRI chemical or TRI chemicals is the sum of the quantities of the TRI chemical (or chemicals) managed as waste on site or off site. Including information on the management of waste provides a greater understanding of how TRI chemicals are managed, rather than focusing only on their final disposition through disposal or other release.

EPA encourages facilities to strive to eliminate waste at its source. In other words, facilities should avoid generating the waste in the first place whenever feasible. For waste that is generated, the preferred management methods are recycling, followed by combusting for energy recovery and treatment. Facilities should dispose of or otherwise release waste as a last resort. The percent of the quantities of waste managed through each of these management methods has changed over time, with a larger proportion recycled and a smaller proportion disposed of or otherwise released in recent years. The table below shows the percent of the waste quantities for each waste management method in 2013, 2021 and 2022.

Percent of Waste Recycled, Combusted for Energy recovery, Treated or Disposed of or Otherwise Released			
	2013	2021	2022
Quantity Recycled	42%	51%	51%
Quantity Combusted for Energy Recovery	10%	10%	10%
Quantity Treated	33%	28%	27%
Quantity Disposed of or Otherwise Released	15%	11%	12%

Q: Were any sectors newly added to the TRI reporting list for 2022?

Previously, only natural gas processing facilities that primarily engaged in recovery of sulfur from natural gas were required to report to TRI. In reporting year 2022, 305 [natural gas processing facilities were required to report to TRI](#) for the first time. Additionally, EPA required 29 [contract sterilization facilities to report to TRI](#) starting with reporting year 2022. All of these contract sterilization facilities, which use ethylene oxide to sterilize products like medical equipment, are required to report for ethylene oxide, and many are also required to report for ethylene glycol, a related chemical.

Q: Were any chemicals newly added to the TRI chemical list for 2022?

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) added 172 per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by TRI for reporting year 2020. The NDAA established a framework for the automatic addition of PFAS to the TRI with a manufacture, processing and otherwise use reporting threshold of 100 pounds for each listed PFAS. Four additional PFAS were added to the TRI list for reporting year 2021, and an additional four PFAS were added for reporting year 2022. Upcoming additions include nine more PFAS for reporting year 2023, and another seven PFAS for reporting year 2024.

Q: What information on PFAS was reported in 2022?

In total, facilities managed 1.2 million pounds of PFAS as waste in 2022. This is an 8% decrease compared to 2021 and is largely driven by a decrease in off-site recycling of perfluorooctyl iodide from one chemical manufacturing facility. In 2022, 160,171 pounds of PFAS were disposed of or otherwise released. This is a 52% increase from 2021, which is not explained by the addition of new chemicals to the TRI. This sector often sees large fluctuations in disposal quantities as they accept variable amounts and types of waste from other industries each year. One hazardous waste management facility accounted for 49% of PFAS releases in 2022, via disposal to RCRA Subtitle C landfill.

The TRI Program received 132 forms from 50 facilities for 44 PFAS for 2022. Most forms were from chemical manufacturing facilities or hazardous waste management facilities. Of the 50 facilities that reported PFAS, two were federal facilities. The TRI program received the most forms for PFOA (16 forms), thiols, C8-20, γ - ω -perfluoro, telomers with acrylamide (12 forms) and PFOS (10 forms). Seven forms were submitted for newly listed PFAS, six for potassium perfluorobutane sulfonate and one for perfluorobutane sulfonic acid.

Q: How many facilities reported for 2022? Is it comparable to prior years?

A total of 21,752 facilities reported to TRI for 2022, which was a 1% increase from the number of facilities that reported for 2021. The number of facilities reporting to TRI has decreased by 2% since 2013.

There are many reasons why a facility may report to TRI one year but not report the next year. Each of the following reasons may account for some portion of the annual changes in facilities reporting to TRI:

- Some facilities had a reduction in employees that caused them to drop below the employee threshold.
- Some facilities reduced or stopped production, either temporarily or because the facility closed, and did not exceed a TRI reporting threshold for the reporting year.
- Some facilities changed their processes so that they no longer use any chemicals on the TRI list or have reduced their use of TRI chemicals below the reporting thresholds for those chemicals.
- The TRI program sometimes adds chemicals to the TRI chemical list. This means that, following such EPA actions, some facilities may now meet the TRI reporting criteria if they manage such chemicals in excess of the reporting thresholds.
- Some facilities may have failed to report to TRI even though they meet the criteria. EPA will review these facilities to determine if follow-up action is appropriate.

General

Q: What factors should I consider when using TRI data?

As with any dataset, there are multiple factors to consider when using TRI data. The TRI [Factors to Consider](#) document describes these factors which include:

- TRI does not include information from all facilities or industry sectors that may manage TRI chemicals in waste, nor does it cover every chemical.
- Facilities that manufacture, process or otherwise use chemicals below the applicable TRI threshold quantity or employ fewer than ten full-time employee equivalents are not required to report to TRI.
- As described in the next question, the quantity of a chemical release alone is not necessarily an indicator of exposure to the chemical, or the potential health or environmental risks posed by the chemical.
- Facilities estimate the quantities they report to TRI based on readily available data. EPA continually works to optimize the quality of the data through our data quality review process.

More information related to understanding and using TRI data is available on the TRI webpage in the [Factors to Consider](#) document.

Q: Should I worry about releases in my community?

Large release quantities do not necessarily mean there is need to be concerned, nor do small releases necessarily mean there is a low risk. “Disposal or other releases” represents a wide variety of management methods. These range from highly controlled disposal, such as in hazardous waste landfills, to releases due to accidental leaks or spills. Many releases reported to TRI are subject to permits and/or environmental standards that establish emissions limits under federal or state laws such as air permits issued under the Clean Air Act. These limits on releases are intended to prevent or at least minimize exposure to the TRI-listed chemical and potential risks to human health and the environment. Factors such as the properties of the TRI chemical, extent of exposure to the TRI chemical following its release, route(s) of exposure (e.g., inhalation, dermal), bioavailability from the exposure route and sensitivity of exposed individuals to effects caused by the TRI-listed chemical must be considered before specific conclusions about risk can be made.

Q: What is EPA doing to help sectors decrease the quantities of TRI chemicals they release to the environment?

EPA's Pollution Prevention Program helps identify pollution prevention (P2) options for industry through a variety of assistance and information-sharing programs. This includes [P2 grants](#), the [Safer Choice Program](#), and the [Green Chemistry Program](#). Learn more about these efforts at [EPA's P2 webpage](#). In addition, the TRI program makes the pollution prevention information submitted by facilities easily accessible through its [TRI P2 webpage](#). This showcases facilities' advances in environmental performance and promotes the implementation of effective P2 practices in other facilities.

Q: Does TRI include information on pollution prevention at facilities?

Yes. The Pollution Prevention Act of 1990 requires facilities to submit information on source reduction (also called pollution prevention) activities they initiated during the reporting year.

Facilities report this information by selecting one or more of 24 codes sorted into five categories: Material Substitutions and Modifications, Product Modifications, Process and Equipment Modifications, Inventory and Material Management, and Operating Practices and Training. Along with the code describing their source reduction activity, facilities report how they identified the opportunity for pollution prevention.

Facilities are also encouraged to provide optional comments about their most effective source reduction activities, with details such as what processes are affected, what chemical or material substitutions they made, and information on new techniques or technologies.

Facilities also have the option to report barriers to implementing source reduction. This information helps EPA identify areas where innovation and information exchange are most needed.

Q: What is the schedule for the TRI National Analysis?

Each year, TRI data are due by July 1 and cover waste management activities that occurred during the previous calendar year. These data are posted online by the end of July as a preliminary dataset. The data then undergo extensive data quality analyses by the TRI Program, and the dataset is refreshed throughout the fall to incorporate any revisions or late submissions received by EPA. The dataset used to create the TRI National Analysis is locked down in mid-October, and the National Analysis report is typically published by early March.

Q: Does TRI include information on releases not related to production, such as from remedial actions or natural disasters?

Yes. Releases and off-site transfers of TRI-listed chemicals in waste not related to production at facilities, such as those that might occur from remedial actions or natural disasters, are reported to TRI as “non-production-related waste.” This means that the TRI chemical waste was not associated with normal or routine production processes. These are wastes resulting from remedial actions, catastrophic events (e.g., natural disasters such as hurricanes) or one-time events not associated with production processes. Note that this information is only reported to TRI if the facility meets all three of the TRI reporting criteria of 1) exceeding the chemical activity threshold; 2) exceeding the employment threshold; and 3) operating within a TRI-covered sector.

Q: Does TRI cover greenhouse gases?

TRI covers a wide range of chemicals, and some of these chemicals, such as some fluorinated chemicals, are also reported to EPA’s Greenhouse Gas Reporting Program. However, being a greenhouse gas alone is not a listing criterion for being covered or tracked by TRI.