Trinity Consultants

WHITE PAPER

PFAS Reporting: CY2024 TRI and TSCA Section 8(a)(7)

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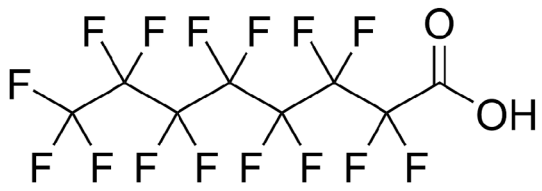
ABSTRACT

Per- and polyfluoroalkyl substances (PFAS) reporting has become more complicated for industry since the initial introduction of PFAS in Toxic Release Inventory (TRI) reporting starting in reporting year 2020 and, more recently, the removal of the de minimis exemption for PFAS starting in RY2024. The National Defense Authorization Act (NDAA) adds 5 new PFAS to TRI reporting for RY2024. In addition to TRI, a new rule under the Toxic Substances Control Act (TCSA) includes a 12-year lookback PFAS report to EPA under TSCA Section 8(a)(7), for any PFAS manufactured or imported from 2011 through 2022. This whitepaper will address the scope of both rules and the requirements, best practices, and reporting guidelines for facilities to meet these expanded reporting requirements

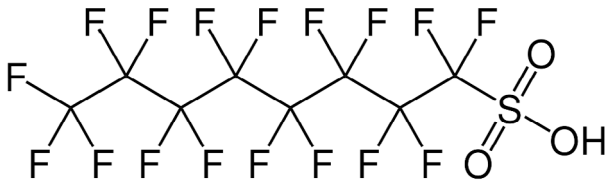
INTRODUCTION

Per- and polyfluoroalkyl substances (PFAS) have emerged over the past decade as a chemical of concern throughout industry, with a specific concern for pulp & paper mills in North America, due to historic use, the ability to persist, and background concentration in the environment. These chemicals are a grouped family of synthetic organofluorine chemical compounds, with almost 15,000 species listed in the United States Environmental Protection Agency (USEPA) CompTox Chemicals Dashboard, with nearly seven million listed in the National Institute of Health's (NIH) National Library of Medicine maintained database, PubChem. The definition of PFAS varies from agency to agency, however, the most generic definition of PFAS is any chemical that has multiple fluorine atoms attached to an alkyl chain, specifically following the formula of C_nF_{2n+1}, these substances will also typically have a functional group attached to the compound, e.g., a carboxyl group. The perfluoroalkyl varieties are defined as aliphatic substances where all of the hydrogen atoms bonded to carbon atoms are replaced by fluorine atoms, except those hydrogen atoms where substitution would modify the nature of the functional group present. Polyfluoroalkyl varies are defined as aliphatic substances where all of the hydrogen atoms attached to at least one (but not all) carbon atoms have been replaced by fluorine atoms. PFAS can be further broken down into two categories, short- and long-chain PFAS. Short-chain PFAS are those that contain six or fewer carbon atoms, while long-chain PFAS contain seven or more carbon atoms. Research has shown that long-chain PFAS are likely to persist longer in the environment or bioaccumulate, while short-chain PFAS may not bioaccumulate but are much more soluble in water than the long-chain PFAS species. Due to their prevalence in commerce and nature as long-chain species, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) are the two most commonly discussed PFAS species, see Figure 1 below for the chemical structure of PFOA and PFOS.

FIGURE 1



PFOA Structure



PFOS Structure

Toxic Release Inventory Reporting

The National Defense Authorization Act (NDAA) for fiscal year 2020, issued December 20, 2019 introduced new PFAS requirements under Title LXXIII, the PFAS Act of 2019. These requirements cover a number of topics, including Toxic Release Inventory (TRI) reporting under Subtitle B – PFAS Release Disclosure. PFAS to be included in TRI are listed in Section 7321(b)(1)(A)-(I), see Table 1 on next page for complete listing.

TRI reporting is required for facilities that meet all of the following criteria:

- The facility is in a covered North American Industrial Classification System (NAICS) Code(s) or is a federal facility,
- Has the full-time equivalent (FTE) of ten employees (20,000 hours per year), manufactures, processes, or otherwise uses (MPOU) Section 313 chemicals, and chemical specific thresholds for MPOU are exceeded.

See Table 2 on next page for covered NAICS codes.

The 10 or more FTE employee threshold for TRI reporting only accounts for employees that worked for the facility, and includes operational staff, administrative staff, dedicated sales staff, company drivers, contractors, and off-site direct corporate support. This threshold does not include contract drivers or any contractors performing intermittent service functions, such as janitorial services. All part-time and full-time employee hours are required to be aggregated to determine if the facility exceeds the 20,000-hour threshold. Pulp and Paper facilities generally fall into the 32 NAICS codes and exceed the 10 FTE threshold, thus are required to perform threshold screening for the MPOU thresholds. There are currently 799 individually listed chemicals and 33 chemical categories covered by TRI reporting listed in 40 CFR Part 372.65, of which 196 are PFAS chemicals for RY2024.

TABLE 1: NDAA Section 7321 Included PFAS

Chemical Name	CAS #
Perfluorooctanoic Acid (PFOA)	335-67-1
PFOA Salts	3825-26-1, 355-95-5, 68141-02-6
Perfluorooctane Sulfonic Acid (PFOS)	1763-23-1
PFOS Salts	2795-39-3, 29457-72-5, 56773-42-3, 29081-56-9, 70225-14-8
Hexafluoroproylene Oxide Dimer Acid (GenX)	13252-13-6
GenX Ammonium Salt	62037-80-3
Perfluorononanoic acid (PFNA)	375-95-1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4
Any TSCA Section 8(1)(b) PFAS	Varies, see 40 CFR Part 721.9582 or 721.10536

TABLE 2: NAICS Coverage for TRI Reporting

Industry Type	NAICS Code
Mining	212
Utilities	221
Manufacturing	31-33
All Other Miscellaneous Manufacturing	1119, 1131, 2111, 4883, 5417, 8114
Merchant Wholesalers, Non-Durable Goods	424
Wholesale Electronic Markets and Agents Brokers	425
Publishing	511, 512, 519
Hazardous Waste	562
Federal Facilities	NA

As part of the MPOU threshold screening, facilities will be required to determine if a TRI listed chemical is manufactured, processed, or otherwise used at the facility in excess of the thresholds set for any specific chemical. The definitions for manufacture, process, or otherwise use are listed in 40 CFR 372.3, importantly defining manufacture as "produce, prepare, import, or compound a toxic chemical," and also applies to any TRI chemicals that are "produced, coincidentally during the manufacture, processing, use, or disposal of another chemical or mixture of chemicals." For the majority of non-PFAS chemicals, the manufacture or process thresholds are set at 25,000 pounds per 40 CFR 372.25(a), and the otherwise use threshold is set at 10,000 pounds per 40 CFR 372.25(b). In addition to the 25,000/10,000-pound MPOU thresholds, the EPA has issued a list of chemicals of special concern per 40 CFR 372.28, each of which has thresholds lower than 25,000/10,000 pounds. PFAS are included in this list and are subject to a lower 100-pound MPOU threshold. PFAS chemicals are not listed as a chemical category, rather Table 1 to Paragraph (a)(1) in 40 CFR 372.28 references individually listed PFAS listed in 40 CFR 372.65(d) & (e). As these chemicals are listed individually, the 100-pound threshold applies to each chemical listed in 40 CFR 372.65(d) & (e), thus the MPOU values for each individual PFAS chemical are not aggregated in the same manner that chemical categories are aggregated against a listed MPOU threshold.

Updates by the EPA to TRI requirements were published in the Federal Register on October 31, 2023, including per- and polyfluoroalkyl substances in the list of chemicals of special concern. With the listing of PFAS as chemicals of special concern, the *de minimis* exemption is removed, and the TRI reports for the chemical can no longer be filed as a streamlined Form A. The *de minimis* exemption is included in 40 CFR 372.38(a) and allows facilities to exclude the quantity of chemical in a mixture if it is present below 1%, or 0.1% if the chemical is a carcinogen, as defined in 40 CFR 372.38(a)(1)(i)-(iii). The removal of the *de minimis* exemption for PFAS chemicals requires all mixtures with PFAS that were previously considered exempt from reporting to be included in threshold determinations and compared to the 100-pound threshold for MPOU. For the first year of PFAS reporting in TRI, EPA only received 89 reports for PFAS. With the removal of the *de minimis* exemption for PFAS, EPA expects this number to increase for RY2024 by an additional 623 to 2,015 Form R reports. This is because PFAS are routinely found in mixtures below the previously accepted *de minimis* level.

Streamlined Form A reporting is codified at 40 CFR 372.27. A chemical can be subject to a 1 million pound MPOU threshold and Form A reporting if the chemical has an annual reportable amount not exceeding 500 pounds for the combined total quantities released at the facility, disposed within the facility, treated at the facility (as represented by amounts destroyed or converted by treatment processes), recovered at the facility as a result of recycle operations, combusted for the purpose of energy recovery at the facility, and amounts transferred from the facility to off-site locations for the purpose of recycle, energy recovery, treatment, and/or disposal. With the designation of PFAS as Chemicals of Special Concern, a Form A is no longer an option.

Pulp and paper facilities are likely to encounter PFAS in chemical additives for paper machines, wastewater treatment system residuals, activities stemming from the use of recycled fiber, and in aqueous film forming foam (AFFF) firefighting systems. Prior to 2024, Safety Data Sheets (SDS) would not necessarily have included PFAS in a mixture below the *de minimis* concentration. With the removal of the *de minimis* exemption for PFAS, facilities must ensure that suppliers provide accurate SDS that list low concentrations of PFAS. Targeted outreach to suppliers is prudent if facilities suspect that PFAS could be present. PFAS may also be present in incoming water to a facility. A study from March 2024 by the Minnesota Pollution Control Agency (MPCA) showed that PFAS background concentrations in groundwater are between 1.85-166 ng/L and in precipitation up to 0.61 ng/L. PFAS has historically been used in paper coatings for waterproofing, which are likely to be recycled into old corrugated containers (OCC), which is then processed at recycled fiber facilities as a virgin fiber alternative. Any incoming PFAS that is not incidentally included in the final product would be removed either from the fiber during the pulping process or during paper making as wastewater, which could then settle in on-site wastewater ponds, be removed in routine sludge removal operations, or be discharged to a publicly owned treatment works (POTW) or to a water body. If sludge is removed from a wastewater treatment system, it is generally incinerated in a boiler for energy recovery or used as beneficial material on agricultural fields. Releases to the environment or on-site and off-site facilities would need to be quantified in sections 5 through 8 of the Form R report if the MPOU threshold is exceeded.

Toxic Substances Control Act Lookback Reporting

The Toxic Substances Control Act (TSCA) is codified in 40 CFR Chapter I Subchapter R, and provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The NDAA authorization for 2020 requires a 12-year lookback for TSCA codified at TSCA Section 8(a)(7) requiring reporting for any facility who manufactured any per- or polyfluoroalkyl substances between January 1, 2011 and December 31, 2022, with a reporting period of July 11, 2025 to January 11, 2026. TSCA defines manufacture as " to import into the customs territory of the United States..., produce, or manufacture for commercial purposes." The rule does not give a discrete list of PFAS compounds, rather it gives a molecular structural

definition of PFAS. This structural definition is codified at 40 CFR 705.3, defined as any substance or mixture containing a chemical substance that structurally contains at least one of the following three sub-structures:

- R-(CF_2)-CF(R')R", where both the CF_2 and CF moieties are saturated carbons
- R-CF_2OCF_2-R', where R and R' can either be F, O, or saturated carbons
- $CF_3C(CF_3)$R'R', where R' and R" can either be F or saturated carbons

The EPA has published a list of chemicals subject to TSCA Section 8(a)(7) as an excel spreadsheet which is available on the EPA TSCA Section 8(a)(7) Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances website as the Public List of TSCA PFAS for 8(a)(7) Rule (xlsx). The list contains 1,224 identified PFAS that are subject to the reporting, a small fraction of the 13,054 (as of April 24, 2024) chemicals listed as PFAS in the CompTox list: PFAS | Toxic Substances Control Act Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances: Section 8(a)(7) Rule List of Chemicals with the list acronym of PFAS8a7. As of the final rule posting for TSCA Section 8(a)(7), EPA states that only 770 PFAS are on the active TSCA inventory, i.e., those active in U.S. commerce. The rule defines PFAS using a structural definition. While EPA and other databases provide lists of included PFAS, these lists are not exhaustive and other compounds may be reportable. Facilities may need to use chemistry knowledge to make a judgement of whether a compound meets the PFAS structural definition or not.

Reporting under TSCA Section 8(a)(7) is required only for facilities that manufactured (including imported) any PFAS for a commercial purpose in any year since January 1, 2011, including coincidental manufacture of PFAS as byproducts or impurities. The rule does not include any facilities that only processed, distributed in commerce, used, and/or disposed of PFAS, and does not include facilities that processed PFAS that were received domestically. The EPA further defines manufacturing for commercial purposes to include the import, production, or manufacturing of a chemical substance or mixture containing a chemical substance with the purpose of obtaining an immediate or eventual commercial advantage, including but not limited to the manufacture of chemical substances or mixtures for commercial distribution, including test marketing, or for use by the manufacturer itself as an intermediate or for product research and development (R&D). This definition specifically excludes non-commercial R&D activities such as scientific experimentation, research, or analysis conducted by academic, government, or independent not-for-profit research organizations, unless the activity is for eventual commercial purposes. The report will be submitted via the SCPP: Submissions for Chemical Safety and Pesticide Programs service tool in the EPA Central Data Exchange (CDX) web-application, similar to the CDR submissions.

One key reporting exemptions not included in Section 8(a)(7) is the small manufacturer exemption, defined in 40 CFR 704.3 as a manufacturer with total annual sales (including parent company) of less than $120 million, without exceeding 100,000 pounds of production or importation of a TSCA chemical, or total annual sales of less than $12 million, with no limit on production or importation. This exemption is present in other reporting under TSCA, but not for the PFAS reporting under Section 8(a)(7). Additionally, there is no *de minimis* exemption for low concentrations under the TSCA Section 8(a)(7) reporting, which further expands the reach of the requirements.

TSCA Section 8(a)(7) reporting must be based on information known to or reasonably ascertainable by facilities. This includes all information in a person's possession or control, plus all information that a reasonable person similarly situated might be expected to possess, control, or know. Thus, a level of due diligence is required to extract all reasonably ascertainable information for reporting, but there are limits to the effort required to conduct new surveys for reportable information. The TSCA Section 8(a)(7) rule and associated EPA guidelines provide direction on the level of due diligence required, but care must be taken to appropriately apply these guidelines to facility-specific availabilities of historic PFAS data.

CONCLUSION

The regulatory landscape for PFAS reporting is ever changing and places an increased reporting burden on facilities. Continued compliance relies on facilities having an awareness and understanding of reporting requirements, with an emphasis on starting these reports early. The time required to obtain PFAS data that has not been previously required due to *de minimis* limits or exclusions from reporting can be a limiting factor for meeting reporting deadlines. Facilities are not recommended to perform blanket requests on all chemicals or vendors, rather use reasonable judgment to determine which chemicals or inputs could potentially contain PFAS chemicals. Using a targeted approach and EPA or trade group guidance on PFAS data including calculations, exemptions, estimations, background concentrations, and reporting requirements is key to successfully complying with existing and future PFAS regulations.

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