



**American
Forest & Paper
Association**

BETTER PRACTICES
BETTER PLANET **2030**
SUSTAINABLE PRODUCTS FOR A SUSTAINABLE FUTURE

CERCLA Listing Proposed Rule: Unintended Outcomes, EPA Discretion, and Sustainable Policy Solutions

February 2, 2024

Overview

- Background: Beneficial use of paper mill residuals
- Potential unintended outcomes of the listing and EPA legal discretion
- Policy solutions that are environmentally and economically sustainable

Overview: Beneficial use of paper mill residuals

- In paper products manufacturing, sustainable materials management includes the beneficial use of paper mill residuals as a fertilizer substitute and soil conditioner. About 2.5 million total dry metric tons of residuals, largely composed of tree fiber (cellulose), are generated by the papermaking process annually (about 24,000 dry metric tons per paper mill annually).
- These residuals provide abundant organic matter, help build deeper organic soils, and hold water when applied to agricultural lands and forest lands. Benefits include increased nutrient-holding capacity, reduced soil erosion, reduced need for irrigation, and reduced soil compaction.
- Many state programs are strictly operated under management plans including testing for metals and organic chemicals.

Beneficial use of paper mill residuals: S5 received 5x residuals as S1



Trends in Residual Management

Management Type

- Landfill/Lagoon
- Combustion (energy recovery)
- Land Application

% Change: 1979-2016

- - 60%
- + 280%
- + 700%

Media Comparison for PFOA/PFOS: (Paper Mill Residuals, House Dust, and Fertilizer– median: ppb)

Mill Residuals (2017-2021)		House Dust (2013-2016)	Biosolids Fertilizer
PFOA	Non-detect	PFOA 8 to 9	PFOA 1.3
PFOS	4.05	PFOS 4 to 14	PFOS 13.2

- PFAS chemistry has never been used broadly in the paper manufacturing process.
- The paper industry phased out the limited use of PFOA/PFOS over a decade ago.
- Some specific FDA-approved short-chain PFAS were used in limited applications particularly for oil/grease-resistance and heat resistance. These FDA-approved short-chain PFAS have largely been phased out from paper manufacturing uses.
- These low levels are consistent with water effluent data EPA reviewed for the ELG and residuals data published by the states.

Studies on Decreasing Background Levels: House Dust and Human Blood (dust - median concentration; blood – GM, ppb) – from Hall et al., 2020

Reference House Dust/ Blood	Year of Sample Collection	Sample Size (# of homes)	PFOS	PFOA
SRM NIST (2018) Reiner et al. (2015) - dust	1993-1994	Unknown	2310	561
Strynar and Lindstrom (2008) - dust	2000-2001	102	201	142
Kato et al. (2009) - dust	2004	10	95	95
Knobeloch et al. (2012) - dust	2008	39	47	44
Fraser et al. (2013) - dust	2009	30	27	24
Karoskova et al. (2016) - dust	2013	14	14	9
Hall et al., (2020) - dust	2014-2016	184	4	8
ATSDR - blood	1999 to 2014		30 to 6 (80% decrease)	5 to <1 (60% decrease)

Potential Unintended Outcome

Regulation (expected – worst case annualized costs)	Potential Unintended Outcome	Solution
CERCLA PFOA/PFOS Hazardous Substances Listing: Unintended outcome for beneficial use of mill residuals (\$573M to \$776M)	<ul style="list-style-type: none">• Beneficial fertilizer substitute and soil conditioner lost to farmers and foresters.• Enormous disposal costs w/o health benefit.• Increased GHGs from trucking residuals to hazardous waste landfills and landfill methane (176K tons/yr).• Impacts to disadvantaged communities via truck traffic, etc.	Exclude safe and beneficial use of paper mill residuals from Sec. 102(a) CERCLA listing using “normal application of fertilizer” exclusion. Sec. 101(22)(D).

EPA's Statutory Discretion

Regulation	Legal Standard	Discretionary Factors
Designation of PFOA/PFOS as CERCLA Hazardous Substances	<p>Administrator can designate additional hazardous substances under CERCLA section 102(a) “as may be appropriate” if its release may present substantial danger to the public health or welfare or the environment.</p> <p>Once listed, triggers release reporting and potential liability for response costs (even if released in very low concentrations, see 1992 3rd Circuit U.S. v. Alcan decision)</p>	<p>EPA has broad discretion to consider all relevant factors under Sec. 102(a) and can find that beneficial land application of paper mill residual falls within the scope of the “normal application of fertilizer” and thus not a “release” under CERCLA. Sec. 101(22)(D). Under this determination, EPA can narrow a listing under section 102.</p>

Proposed Regulatory Solution

Regulatory Text: "Perfluorooctanesulfonic acid, salts, & structural isomers, other than those found in fertilizers and soil conditioners at levels comparable to those found in the application of conventional fertilizers and soil conditioners" and "Perfluorooctanoic acid, & salts, & structural isomers other than those found in fertilizers and soil conditioners at levels comparable to those found in the application of conventional fertilizers and soil conditioners"

- This text implements the "normal application of fertilizer" exclusion from a CERCLA release whenever the concentrations of PFOA and PFOS in such residuals are comparable to the levels found in **conventional** fertilizers and soil conditioners.
- It is modeled on EPA's position, since 1993, regarding land application of municipal biosolids as fertilizer or soil conditioner.

Preamble: Preamble should discuss what constitutes a conventional fertilizer and note PFOA and PFOS levels found therein, to provide the appropriate comparison. At a minimum, the preamble to the final regulation should announce EPA's interpretation of the fertilizer exclusion as excluding PFOA and PFOS contained in paper mill residuals beneficially applied to land.

Enforcement Discretion Guidance: EPA's enforcement discretion guidance should include a discussion of the CERCLA exclusion of "the normal application of fertilizer" from the definition of "release" and how it applies to fertilizers and soil amendments, including paper mill residuals and biosolids that may contain PFAS. Much like existing enforcement discretion guidance, EPA can discuss how they interpret terms for the purpose of EPA's own enforcement actions.