EPA RECOMMENDATIONS FOR WATER QUALITY CRITERIA FOR AQUATIC ECOSYSTEMS

OVERVIEW: *EPA published its final recommended water quality criteria and benchmarks to protect freshwater and saltwater aquatic ecosystems from PFAS. Langan shares the latest updates and guidance on how to respond proactively.*

In September 2024, the United States Environmental Protection Agency (EPA) published its final national recommended water quality criteria and benchmarks to help states and authorized tribes protect aquatic ecosystems from per- and polyfluoroalkyl substances (PFAS). For perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), EPA published criteria for short-term (acute) and long-term (chronic) exposures as well as saltwater benchmarks for acute exposures. The final version also contained chronic criteria expressed as PFOA and PFOS concentrations in fish muscle tissue, fish whole body tissue, and invertebrate tissue. Additionally, EPA developed separate acute freshwater benchmarks for eight data-limited PFAS compounds.

The table below shows the final recommended freshwater aquatic life water quality criteria for PFOA and PFOS.

Table 1 - Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS

Criteria Component	Acute Water Column (CMC)	Chronic Water Column (CCC)	Invertebrate Whole Body	Fish Whole Body	Fish Muscle
PFOA	3.1 mg/L	0.10 mg/L	1.18 mg/kg ww	6.49 mg/kg ww	0.133 mg/kg
PFOS	0.071 mg/L	0.00025 mg/L	0.028 mg/kg ww	0.201 mg/kg ww	0.0807 mg/kg ww
Duration	1-hour average	4-day average	Instantaneous		
Frequency	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in three years, on average	Not to be exceeded		

Notes:
mg/L – Milligrams per liter
CMC – Criteria Maximum Concentration
CCC – Criteria Continuous Concentration
mg/kg – Milligram per kilogram
ww – Wet weight

EPA developed benchmark values for PFOA and PFOS intended to be protective of saltwater organisms and benchmark values for other PFAS using the best available data. Water quality criteria could not be developed for these endpoints and/or compounds because of the lack of sufficient studies and data. The table below shows the acute saltwater aquatic life benchmarks for PFOA and PFOS.

Table 2 – Acute Saltwater Aquatic Life Benchmarks for PFOA and PFOS

Chemical	PFOA	PFOS
Magnitude (mg/L)	7.0	0.55
Duration	One hour average	
Frequency	Not to be exceeded more than once in three years on average	

Notes:
mg/L – Milligrams per liter

The table below shows the acute freshwater benchmarks for protecting aquatic life from eight additional PFAS.

Table 3 – Acute Freshwater Aquatic Benchmarks for Eight PFAS

Chemical	PFBA	PFHxA	PFNA	PFDA	PFBS	PFHxS	8:2 FTUCA	7:3 FTCA
Magnitude (mg/L)	5.3	4.8	0.65	0.5	5.0	0.21	0.037	0.012
Duration	One hour average							
Frequency	Not to be exceeded more than once in three years on average							

Notes:

mg/L – Milligrams per liter

Although the current PFAS criteria and benchmarks are not enforceable, they serve as foundational guidance for states, local governments, and other regulatory entities that may develop their own water quality standards. States also have the option to adopt these recommendations directly into their regulations.

Once a state or regulatory authority finalizes surface water PFAS aquatic life criteria, impacted facilities holding National Pollutant Discharge Elimination System (or NPDES) permits, including wastewater and industrial operations, will likely need to respond. For facilities already conducting PFAS investigations, future sampling of receiving waterbodies may become a regulatory requirement. Additionally, government agencies might initiate sampling of water or aquatic life near facilities where PFAS releases are suspected.

Facilities with potential PFAS discharges to nearby surface waters should proactively consider sampling water and aquatic life to assess current conditions and prepare for possible mitigation measures. This preparation can help facilities stay ahead of regulatory developments and minimize compliance risks.

To discuss this matter and how it may impact your projects, please contact your Langan Project Manager or:

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