

PVDF MEMBRANES, PFAS AND WATER TREATMENT

KEY INFORMATION FOR CUSTOMERS

The proposed EU PFAS restriction has raised questions about the future of PVDF membrane technology in water and wastewater treatment.

After reviewing scientific literature, water-sector position papers, supplier information and Blue Foot's own analytical testing data, Blue Foot Membranes remains confident that PVDF membrane technology continues to be a proven, extensively tested and future-ready solution for water treatment. [\[watereurope.eu\]](https://watereurope.eu), [\[Shah et al, 2021\]](#), [\[academic.oup.com\]](https://academic.oup.com)

THE KEY FACTS

PVDF MEMBRANES ARE PART OF THE SOLUTION TO PFAS CONTAMINATION

Membrane technologies are already used by water utilities to address PFAS contamination. Water Europe identifies membrane processes such as reverse osmosis and nanofiltration among the technologies used for PFAS removal and specifically recognises PVDF membranes as important water-treatment technologies. [\[watereurope.eu\]](https://watereurope.eu)

PVDF membranes should therefore be viewed not only as part of the PFAS discussion, but also as part of the water industry's solution to PFAS contamination. [\[watereurope.eu\]](https://watereurope.eu), [\[Shah et al, 2021\]](#)

PVDF IS FUNDAMENTALLY DIFFERENT FROM THE PFAS COMPOUNDS THAT ORIGINALLY RAISED CONCERN

PVDF is a high-molecular-weight fluoropolymer. Scientific literature describes fluoropolymers as insoluble, non-mobile, non-bioavailable and non-bioaccumulative materials with properties fundamentally different from low-molecular-weight PFAS compounds such as PFOA and PFOS [\[Korzeniowski et al, 2023\]](#), [\[Améduri, 2025\]](#).

Water Europe specifically refers to PVDF membranes as examples of well-studied fluoropolymers of low concern used in water and wastewater management systems. [\[watereurope.eu\]](https://watereurope.eu)

MODERN PVDF PRODUCTION DOES NOT NEED TO RELY ON LEGACY

FLUROSURFACTANT CHEMISTRY

Major fluoropolymer suppliers have publicly communicated the adoption of fluorosurfactant-free or non-fluorosurfactant production technologies. [\[Arkema-1\]](#), [\[Arkema-3\]](#), [\[solvay.com\]](#), [\[syensqo.com\]](#)

For its membrane production, Blue Foot sources PVDF grades that are manufactured without fluorosurfactant-based production agents.

Blue Foot's approach combines qualified PVDF sourcing with verification of the finished membrane product through wastewater monitoring and membrane-leachate testing.

The PVDF polymer grade used in Blue Foot IPC® membranes is certified to NSF/ANSI/CAN 61, a widely recognised health-effects standard for materials and components used in drinking-water systems.

BLUE FOOT'S OWN TESTING HAS NOT IDENTIFIED PFAS RELEASE

Not all PVDF membranes are produced from the same raw materials or manufacturing routes. Blue Foot therefore combines supplier qualification with product-specific testing of IPC® membranes and has conducted multiple PFAS investigations involving process water, wastewater, membrane material and long-term membrane leachate. The testing programme included:

- Analysis of process water and wastewater for 42 PFAS compounds
- Analysis of the IPC® membrane material and long-term membrane leachate
- Independent laboratory analysis by Normec and VITO.

The reported results showed:

- Targeted PFAS were not detected above the applicable analytical reporting limits.
- No PFAS traces were detected in the analysed membrane material or membrane leachate under the reported conditions.
- No evidence of PFAS release from IPC® membrane products under the tested conditions.

ALTERNATIVE MATERIALS MUST BE EVALUATED CAREFULLY

Potential alternative materials such as PES should be evaluated on their full lifecycle performance, not merely on whether they contain fluorine.

PVDF has become the dominant membrane material in many drinking water, wastewater and MBR applications because of its chemical resistance, durability, oxidant tolerance and long service life. Public literature reports that degraded PES materials can release Bisphenol-S under certain environmental weathering conditions, illustrating why replacement materials should be assessed

across their full environmental lifecycle rather than solely on whether they contain fluorine. [\[Arkema-5\]](#), [\[Pearce, 2025\]](#), [\[Yang et al, 2021\]](#)

PVDF MEMBRANES HAVE A VALIDATED END-OF-LIFE PATHWAY

Blue Foot supports controlled end-of-life management of spent PVDF membrane products. Industrial-scale research has demonstrated complete mineralisation of the organic fluorinated content in tested PVDF-containing waste, with destruction and removal efficiencies of 99.9999% or higher under the reported incineration conditions. This demonstrates that appropriately operated industrial incineration provides an effective end-of-life route for PVDF-containing waste [\[Ramboll, 2026\]](#), [\[Corbin et al, 2026\]](#).

BLUE FOOT'S POSITION

Blue Foot believes that decisions on membrane materials should be based on scientific evidence, actual environmental performance and contribution to water quality.

The available evidence indicates that:

- PVDF is a Polymer of Low Concern with properties fundamentally different from low-molecular-weight PFAS. [\[Korzeniowski et al, 2023\]](#), [\[watereurope.eu\]](#)
- Blue Foot sources qualified PVDF and verifies the finished IPC® membrane product
- Blue Foot's testing found no evidence of PFAS release from manufacturing wastewater or membrane leachate under the reported conditions.
- The PVDF polymer grade used in IPC® membranes is certified to NSF/ANSI/CAN 61 and is produced without fluorosurfactant-based manufacturing routes.
- Available evidence supports responsible operation and validated end-of-life management of PVDF membrane products. [\[Ramboll, 2026\]](#), [\[Corbin et al, 2026\]](#)
- Membrane technologies are part of the water sector's response to PFAS contamination [\[watereurope.eu\]](#).

BOTTOM LINE

PVDF membranes should therefore be viewed not only as part of the PFAS discussion, but also as enabling components in the water industry's response to PFAS contamination.

Blue Foot continues to regard PVDF membrane technology as a proven, extensively tested and future-ready solution for water and wastewater treatment applications. [\[watereurope.eu\]](#), [\[Shah et al, 2021\]](#), [\[thembrsite.com\]](#)