

Hydrophilic PTFE Syringe Filters vs. Standard PTFE Filters - HPLC Primer

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Overview

Standard PTFE syringe filters are naturally hydrophobic, which can create elevated backpressure when filtering aqueous samples.

However, with proper conditioning—or by selecting a dedicated hydrophilic PTFE membrane—users can significantly improve flow behavior and filtration efficiency in aqueous mobile phases.

Converting Standard PTFE Filters for Aqueous Use

Standard PTFE membranes can be made more compatible with aqueous solutions through a methanol-wetting step. This process reduces resistance by altering the membrane surface to improve wetting.

How to Perform the Wetting Conversion

For a 25 mm syringe filter:

- Pass 15–20 mL of methanol through the filter as a blank filtrate.
- After this conditioning, aqueous samples will experience lower backpressure due to improved membrane wetting.

Important Considerations

- Residual methanol may appear in your chromatographic results depending on detector sensitivity.
 - This approach is method-dependent and may not be ideal in regulated or trace-analysis environments.
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Hydrophilic PTFE Syringe Filters – The Better Option

MICROSOLV offers a hydrophilic PTFE syringe filter that removes the need for pre-conditioning with methanol. These filters feature:

- A PTFE membrane that has been surface-treated to become hydrophilic
- Only minimal, trace-level surfactant, preventing contamination of sensitive HPLC columns
- Significantly lower risk of surfactant leaching compared to competitive brands, which often use heavier surfactant coatings that can transfer to the column and shorten column lifetime

Hydrophilic PTFE filters provide consistent, aqueous-friendly performance without extra steps.

Ordering Information

- Click [HERE](#) for ordering information and images of the Hydrophilic PTFE Syringe Filter.
- Click [HERE](#) for ordering information and images of AQ™ Syringe Filters.
- **Attachment:** MICROSOLV filters equivalency study pdf [Download File](#)

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