

Syringe Filter Membrane Compatibility Chart

Use this information to determine the ability of a specific syringe filter membrane to withstand exposure to solvent. All concentrations are 100% unless noted.

Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
<b>ACIDS</b>								
Acetic, Glacial	LC	C	C	C	IC	C	C	C
Acetic, 25%	C	C	C	C	CA	C	C	C
Hydrochloric, Concentrated	IC	C	C	C	IC	IC	C	C
Hydrochloric, 25%	IC	C	C	C	IC	IC	C	C
Sulfuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulfuric, 25%	IC	C	C	C	IC	IC	C	LC
Nitric, Concentrated	IC	C	C	IC	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	CA	LC	C	C
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	CA	C	C	ND
<b>HALOGENATED HYDROCARBONS</b>								
Methylene Chloride	LC	C	C	IC	IC	C	LC	C
Chloroform	C	C	C	IC	IC	C	LC	C
Trichloroethylene	C	C	C	IC	C	C	C	C
Chlorobenzene	C	C	C	LC	C	C	C	C
Freon	C	C	C	LC	C	C	C	C
Carbon Tetrachloride	C	C	C	IC	LC	C	LC	C
<b>HYDROCARBONS</b>								
Hexane/Xylene	C	C	C	IC	C	C	IC	C
Toulene/Benzene	C	C	C	IC	C	C	IC	C
Kerosene/Gasoline	C	C	C	LC	C	C	IC	C
Tetralin/Decalin	ND	C	C	ND	C	C	ND	ND
<b>KETONES</b>								
Acetone	C	C	IC	IC	IC	C	C	C
Cyclohexanone	C	C	IC	IC	IC	C	C	C
Methyl Ethyl Ketone	C	C	LC	IC	LC	C	LC	C
Isopropylacetone	C	C	IC	IC	C	C	ND	C
Methyl Isobutyl Ketone	ND	C	LC	IC	ND	C	LC	C
<b>ORGANIC OXIDES</b>								
Ethyl Ether	C	C	C	C	C	LC	LC	ND
Dioxane	C	C	LC	IC	C	C	C	C
Tetrahydrofuran	C	C	LC	IC	C	C	C	C
Triethanolamine	C	C	ND	C	C	ND	ND	ND
Dimethylsulfoxide (DSMO)	C	C	IC	IC	C	C	C	C
Isopropyl Ether	ND	C	C	C	C	C	C	ND
<b>MISCELLANEOUS</b>								
Phenol, Aqueous Sol., 10%	ND	C	LC	IC	IC	IC	C	C
Formaldehyde, Aqueous Sol. 30%	C	C	C	C	C	LC	C	C
Hydrogen Peroxide, 30%	C	C	ND	ND	C	C	ND	ND
Silicone Oil/Mineral Oil	ND	C	C	C	C	C	C	C

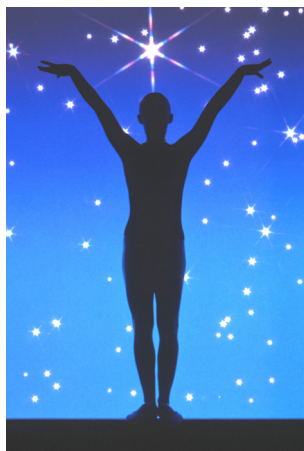
Legend

- C** Compatible
- LC** Limited Compatibility (membrane may swell and shrink)
- IC** Incompatible (not recommended)
- ND** No compatibility data currently available

- PTFE** Polytetrafluoroethylene (Teflon®)
- PVDF** Polyvinylidene
- PES** Polyethersulfone
- CA** Cellulose Acetate
- RC** Regenerated Cellulose
- PP** Polypropylene
- GMF** Glass MicroFilter

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<b>ACIDS</b>								
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Hydrochloric, Concentrated	IC	C	C	C	IC	IC	C	C
Hydrochloric, 25%	IC	C	C	C	IC	IC	C	C
Sulfuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulfuric, 25%	IC	C	C	C	IC	IC	C	LC
Nitric, Concentrated	IC	C	C	IC	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	CA	LC	C	C
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	CA	C	C	ND
<b>ALCOHOLS</b>								
Methanol, 98%	C	C	C	C	C	C	C	C
Ethanol, 98%	C	C	C	C	C	C	C	C
Ethanol, 70%	LC	C	C	C	C	C	C	C
Isopropanol	C	C	C	C	C	C	C	C
n-Propanol	C	C	C	C	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	C	C	C	C	C
Benzyl Alcohol	C	C	C	ND	LC	C	C	IC
Ethylene Glycol	C	C	C	C	C	C	C	C
Propylene Glycol	C	C	C	C	LC	C	C	C
Glycerol	C	C	C	C	C	C	C	C
<b>ALKALIES</b>								
Ammonium Hydroxide, 25%	C	C	LC	C	C	LC	C	C
Sodium Hydroxide, 3N	C	C	C	C	IC	LC	C	IC
<b>AMINES AND AMIDES</b>								
Dimethyl Formamide	LC	C	IC	IC	IC	LC	C	C
Diethylacetamide	C	C	ND	ND	IC	C	ND	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Aniline	ND	C	ND	ND	IC	C	ND	ND
Pyridine	C	C	IC	IC	IC	C	IC	C
Acetronile	C	C	C	LC	IC	C	C	C
<b>ESTERS</b>								
Ethyl Acetate/Methyl Acetate	C	C	C	IC	IC	C	LC	C
Amyl Acetate/Butyl Acetate	C	C	IC	IC	LC	C	LC	C
Propyl Acetate	C	C	IC	IC	LC	C	LC	ND
Propylene Glycol Acetate	ND	C	ND	IC	IC	C	C	ND
2-Ethoxyethyl Acetate	ND	C	ND	IC	LC	C	ND	ND
Methyl Cellulosolve	ND	C	ND	IC	IC	C	C	C

# Tk Certified Olimpeak™ Syringe Filters



## Membrane Selection

To select the right membrane for sample and solvent filtration for chromatography, there are several important considerations:

- The membrane and housing must be highly solvent resistant, since most chromatography solvents are aggressive and sometimes corrosive.
- It should not have extractables because they can interfere with analytical results.
- It should present a low protein binding for biological samples.
- Size and amount of particulates in the sample
- Special considerations if you need pre-filter
- Special membrane for filtration of inorganic ions

## Guidelines to choose your syringe filter

Sample matrix with organic or/and water solvents:

You can use:

Nylon, Polypropylene, PVDF, PTFE, Regenerated Cellulose

### Sample matrix with aqueous solutions:

You can use:

Cellulose Acetate, M.E. Cellulose, PES, Nitrocellulose

### Sample matrix with peptides and proteins:

You can use:

Regenerated Cellulose, Acetate Cellulose, Polypropylene, PVDF, PES

### Tissue Culture media Filtration:

You can use:

Regenerated Cellulose, Cellulose Acetate, PES, M.E Cellulose

### Ion Chromatography Filtration:

You can use:

Certified Polyethersulfone

### Samples matrix with excessive amount of particulates:

You can use:

Syringe filter with Glass Prefilter.

## General Overview

**Filter Housing:** High density polypropylene (PP) medical grade: Excellent chemical compatibility with acids, alcohols, bases, ethers, glycols, ketones and oils.

Limited resistance for acids > 1N, ethers, aromatics and halogenated hydrocarbons

Maximum operating temperature 135 °C

**Standard Connections:** Female Luer Lock inlet, male Luer slip outlet as a standard in compliance with ISO 594-1

**Minutip Connections:** Female Luer Lock inlet, male MiniTip outlet

**Robotic Connections:** Female Luer Lock inlet, male Minispik outlet

**Filter type:** Non sterile

**Membranes Selection:** PP (Polypropylene), Nylon, Nylon Low Extractables, PTFE, M.E. Cellulose, Regenerated Cellulose, PVDF, Nitrocellulose, Cellulose Acetate, Polyethersulfone, and Glass Microfiber

**Pore size:** 0.2 - 0.45 µm for all filters

**Pore size:** 1, 2 and 5 µm for Glass microfiber

**Pore size 0.45 µm:** Most of HPLC application.

**Pore size 0.20 µm:** we use them in 2 cases:

- 1- In order to eliminate all bacterial contamination.
- 2- When we use 3 µm HPLC column.

**Max. Operating pressure:** 13 mm D. 750 Kpa and 25 mm D. 550 Kpa

**Retention volumes:** 13 mm < 30 µl and 25 mm D. < 120 µl

**Max. Filtration volume:** 13 mm D. 1-10 ml and 25 mm D. > 10 ml

**Filtration area:** 13 mm D. 0.95 cm<sup>2</sup> and 25 mm D. 3.55 cm<sup>2</sup>

*Forsampleswithahighamountofparticulatesitisrecommended to use the filters with a glass-fiber pre-filter. This combination eliminates the need for a pre-filtration step.*