

Target® Syringe Filter Membrane Selection Guide

Choose a filter or membrane based on:

1. Chemical compatibility of the membrane and housing with your sample matrix
2. Size and amount of particulates in the sample
3. Potential interactions (binding) between the membrane and sample components
4. Special considerations such as requirement for pre-filter or inorganic ion certification

Target Syringe Filter Housings

- Target Syringe filter housings are manufactured from solvent-resistant, low-extractable polypropylene resins specifically selected for wide compatibility with common HPLC sample matrices.
- Solutions at temperatures up to 100°C can be filtered using Target syringe filters.
- Target syringe filters can be sterilized by autoclave at 125°C for 15 minutes.
- The inlet connection is an enhanced female Luer-Lok™ fitting designed for extra security when attached to a Luer-Lok syringe.
- The outlet fitting is a standard size male Luer-slip fitting for ease of filtrate collection.
- Target polypropylene syringe filter housings meet the requirements of 21 CFR 177.1520.

This table offers general guidelines for membrane characteristics and compatible applications.

Membrane Type	Membrane Characteristics	Applications
Cellulose Acetate	Low protein binding, ideal for aqueous-based samples; high protein recovery from filtrate; lower protein binding compared to PVDF	Tissue Culture media filtration, sensitive biological samples
Glass MicroFiber	Larger porosity; able to remove large particulates without clogging	Dissolution testing, general filtration
Nylon	Most frequently selected membrane; broad compatibility with aqueous and organic samples; naturally hydrophilic membrane; extremely low in extractables; excellent flow rate with most sample matrices; not compatible with strong acids or bases	General laboratory filtration; filtration for most HPLC samples. NOTE: Nylon binds protein, do not use when high protein recovery is desired
Polyethersulfone	High flow rates with good throughput volume; low protein binding; compatible with high temperature liquids; mechanically strong membrane low in inorganic extractable ions	PES is certified for Ion Chromatography; Tissue Culture filtration; filtration of proteins and nucleic acids
Polypropylene	Hydrophilic membrane has wide chemical compatibility with organic solvents; low nonspecific protein binding	Filtration of biological samples; filtration of aggressive organic solutions
PTFE	Hydrophobic membrane is resistant to nearly all solvents, acids, and bases; membrane is mechanically strong and will withstand exposure to high temperature liquids; low in extractables; PTFE blocks water vapor; can be used to filter aqueous solutions after prewetting with an alcohol	Filtration of aggressive organic, highly basic or hot solutions, ideal for transducer protectors
PVDF	Hydrophilic membrane with good solvent resistance; low UV absorbing extractables and low nonspecific binding	General biological filtration; filtration of samples where high protein recovery is desired
Regenerated Cellulose	Hydrophilic membrane with good solvent resistance, extremely low nonspecific binding; compatible with nearly all common HPLC solvents; tolerates aqueous samples in pH range of 3 to 12	Membrane of choice for low nonspecific binding applications; Tissue Culture media filtration and general biological sample filtration

Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
ACIDS								
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, Copncentrated	IC	C	IC	IC	IC	IC	C	C
Sulfuric, 25%	IC	C	C	C	IC	LC	C	C
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	ND
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	CA	C	C	ND
ALCOHOLS								
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
ALKALIES								
Ammonium Hydroxide, 25%	C	C	LC	C	C	LC	C	C
Sodium Hydroxide, 3Normal	C	C	C	C	IC	LC	C	IC
AMINES AND AMIDES								
Dimethy 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
Acetonitrile	C	C	C	LC	IC	C	C	C

LEGEND
C = Compatible
LC = Limited Compatibility (Membrane may swell and/or shrink)
IC = Incompatible (Not Recommended)
ND = No Compatibility Data Currently Available
PTFE = Polytetrafluoroethylene
PVDF = Polyvinylidene
PES = Polyethersulfone
CA = Cellulose Acetate
RC = Regenerated Cellulose
PP = Polypropylene
GMF = Glass MicroFiber

ESTERS								
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 Cellusolve	ND	C	ND	IC	IC	C	C	C
Benzyl Benzoate	C	C	ND	IC	C	C	ND	ND
Isopropyl Myristate	C	C	ND	IC	C	C	ND	ND
Tricresyl Phosphate	ND	C	ND	IC	C	C	ND	ND
HALOGENATED HYDROCARBONS								
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
HYDROCARBONS								
Hexane/Xylene	C	C	C	IC	C	C	IC	C
Toluene/Benzene	C	C	C	IC	C	C	IC	C
Kerosene/Gasoline	C	C	C	LC	C	C	LC	ND
Tetralin/Decalin	ND	C	C	ND	C	C	ND	ND
KETONES								
Acetone	C	C	IC	IC	IC	C	C	C
Cuclohexanone	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
ORGANIC OXIDES								
Ethyl Ether	C	C	C	C	C	C	LC	ND
Dioxane	C	C	LC	IC	I	C	C	C
Tetrahydrofuran	C	C	LC	IC	I	C	C	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Dimethylsulfoxide (DMSO)	C	C	IC	IC	I	C	C	C
Isopropyl Ether	ND	C	C	C	C	C	C	ND
MISCELLANEOUS								
Phenol, Aqueous Solution, 10%	ND	C	LC	IC	IC	IC	C	C
Formaldehyde Aqueous Solution, 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