



Chemical Resistance of Filter Membrane

PES (Vacuum Filtration “rapid”-Filtermax and Syringe Filter)

PTFE (Filter Screw Cap and TubeSpin® Bioreactor Cap)

The following table provides a chemical resistance rating for a number of fluids that are considered either aggressive or non-aggressive to PES and PET filter membranes.

Actual chemical resistance of TPP products depends on many variables, such as:

- exposure time
- concentration of chemicals
- thermal stress (e.g., autoclaving)
- exertion of force
- exposure to UV radiation
- aging, which may be caused by the action of detergents
- other environmental factors

TPP recommendations based on technical literature and information provided by raw material manufacturers. They are a general guide for users of plastics materials and do not replace suitability testing by the user under actual working conditions.

For the list of chemical resistance, the following legend is valid:

R Resistant	LR Limited Resistance	NR Not Resistant
No significant change was observed.	Moderate changes in physical properties or dimensions of the membrane were observed. The membrane may be suitable for short term, small volume and noncritical use.	The membrane is basically unstable. In most cases, extensive shrinkage or swelling of the membrane occurs. It may gradually weaken or partially dissolve after extended exposure.



ACIDS	PES	PTFE
Acetic acid, 25%	R	R
Acetic acid, 100%, glacial	LR	R
Formic acid, 25%	R	R
Formic acid, 100%	LR	R
Hydrochloric acid, 25%	R	R
Hydrochloric acid 37%, Conc.	R	R
Nitric acid, 25%	NR	R
Nitric acid, 60%	NR	R
Phosphoric acid, 25%	-	R
Sulfuric acid, 25%	NR	R
Sulfuric acid, 98%, Conc.	NR	R
ALCOHOLS	PES	PTFE
Amyl alcohol	NR	R
Benzyl alcohol	NR	R
Ethanol 70%	LNR	R
Ethanol 98%	LNR	R
Ethylene glycol	LR	R
Glycerol	LR	R
Isopropanol	R	R
Methanol 98%	LR	R
n-Propanol	LR	R
Phenol	NR	R
Propylene glycol	LR	R
BASES	PES	PTFE
Ammonium hydroxide, 25%	NR	R
Ammonium hydroxide, 1 N	R	R
Potassium hydroxide , 1 N	R	R
Sodium hydroxide, 5%	R	R
Sodium hydroxide, 1 N	LNR	R
Sodium hydroxide, 6 N	LNR	R

ESTERS	PES	PTFE
Amyl acetate	NR	R
Butyl acetate	NR	R
Benzyl benzoate	NR	R
Ethyl acetate	NR	R
2-Ethoxyethyl acetate	R	R
Methyl acetate	NR	R
2-Methoxyethanol acetate	R	R
Propyl acetate	NR	R
HYDROCARBONS ALIPHATIC	PES	PTFE
Gasoline	LR	R
Hexane	NR	R
Kerosene	R	R
HYDROCARBONS AROMATIC	PES	PTFE
Toluene	LNR	R
Xylene	NR	R
HYDROCARBONS HALOGENATED	PES	PTFE
Carbon tetrachloride	R	R
Chloroform	R	R
Freon	LR	R
Methylene chloride	NR	R
Chlorobenzene	NR	R
Tetrachloroethene	LR	R
1,1,1-Trichloroethane	LR	R
1,1,2-Trichloroethane	LR	R
Trichloroethylene	R	R
KETONES	PES	PTFE
Acetone	NR	R
Cyclohexanone	NR	R
Butan-2-one	NR	R
MISCELLANEOUS	PES	PTFE
Acetonitrile	LR	R
Acrylamide	R	R
Dimethyl sulfoxide (DMSO)	NR	R
Dioxane	LR	R
Diethyl ether	R	R
Formaldehyde, 30%	R	R
Hydrogen peroxide, 30 %	-	R
2-Methoxyethanol	--	R
Pyridine	NR	R
Tetrahydrofuran	NR	R
Water	R	R



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