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Chemical Compatibility of PES Filter Membrane

The compatibility data presented in this chart provides results when materials are exposed to the chemical under static conditions for 48 hours at 25 °C (77 °F). The recommendations given from TPP were prepared carefully and are intended as first guideline for users as a general guidance. However, they cannot replace suitability testing performed by the user under actual working conditions. Polyether sulfone (PES) is one of the most important polymeric materials and is widely used in separation fields. PES membranes are widely employed in biomedical fields and modified by the polymer Poly vinyl pyrrolidone (PVP) as a hydrophilic additive. [1]
For the list of chemical resistance, following legend is valid:

R Resistant	**LR** Limited Resistance	**NR** Not Resistant
No significant change was observed in flow rate or bubble point of the membrane following 48 hours exposure to the test fluid at 25 °C (77 °F).	Moderate changes in physical properties or dimensions of the membrane were observed. The membrane may be suitable for short term, 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.

CHEMICAL	PES
Acetic Acid, Glacial	R
Acetic Acid, 90%	R
Acetic Acid, 30%	R
Acetic Acid, 10%	R
Hydrochloric Acid, Conc.	R
Hydrochloric Acid,	R
Nitric Acid, Conc.	R
Nitric Acid, 6N	R
Sulfuric Acid, Conc.	R
Sulfuric Acid, 6N	R
Phosphoric Acid, Conc.	R
Chromic Acid, Conc.	R
Hydrofluoric Acid	R
ALCOHOLS	**PES**
Amyl Alcohol	R
Benzyl Alcohol, 100%	NR
Benzyl Alcohol, 3%	LR
Butanol	R
Ethanol	R
Isopropanol	R
Methanol	R
BASES	**PES**
Ammonium Hydroxide	R
Ammonium Hydroxide, 6N	R
Potassium Hydroxide	R
Sodium Hydroxide	R
Sodium Hydroxide	R
ESTERS	**PES**
Amyl Acetate	R
Butyl Acetate	R
Cellosolve Acetate	R
Ethyl Acetate	NR
Isopropyl Acetate	R
Methyl Acetate	NR
Diethyl Ether	NR
Diisopropyl Ether	R
Dioxane	R
Tetrahydrofuran	R
GLYCOLS	**PES**
Ethylene Glycol	R
Glycerin	R
Propylene Glycol	R

AROMATIC HYDROCARBONS	PES
Benzene	LR
Toluene	LR
Xylene	LR
HALOGENTATED HYDROCARBONS	**PES**
Carbon Tetrachloride	LR
Chloroform	NR
Chlorothene	NR
Dowclene	NR
Freon	R
Genosolv D	R
Methylene Chloride	NR
Perchloroethylene	R
Trichloroethylene	LR
KETONES	**PES**
Acetone	NR
Cyclohexanone	NR
Methyl Ethyl Ketone	NR
Methyl Isobutyl Ketone	NR
OILS	**PES**
Cottonseed Oil	R
Peanut Oil	R
Sesame Oil	R
White Petroleum	R
MISCELLANEOUS	**PES**
Aniline	NR
Dimethyl Formamide	NR
Dimethyl Sulfoxide	NR
Formaldehyde 37%	R
Formaldehyde 4%	R
Gasoline	R
Hexane	LR
JP-4	R
Kerosene	R
Phenol, Liquid	NR
Pyridine	NR
Turpentine	R
Water	R
Acetonitrile	LR
Nickel Sulfate	R

[1] Polyethersulfone Hollow Fiber Membranes for Hemodialysis / Baihai Su, Shudong Sun and Changsheng Zhao, Department of Nephrology, West China Hospital, Sichuan University, College of Polymer Science and Engineering, State Key Laboratory of Polymer Materials Engineering, Sichuan University, PR China