

Chemical Compatibility

Centrifugal and TFF Devices

Centrifugal Devices

Nanosep®
Microsep™
Macrosep®
Jumbosep™

Acids										Alcohols										Bases	Esters		Glycols		HH
Acetic acid (10%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	-	N	R	R	R	R	-
Citric acid (1%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	-	N	R	R	R	R	-
Formic acid (1N)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Hydrochloric acid (1N) (0.1N, 50 °C)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Lactic acid (5%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Nitric acid (1%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Oxalic acid (1%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Phosphoric acid (1%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Sulfuric acid (1N) (0.1N, 25 °C)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Butanol (70%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Butyl cellosolve (10%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Ethanol (70%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Isopropanol (25%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Mercaptoethanol (10%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Methanol (10%) (25%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Propanol (70%) (25%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Ammonium hydroxide (1 N)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Sodium hydroxide (1 N)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Isopropyl acetate (1%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Ethyl acetate (10%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Ethyl acetate (100%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Glycerol	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Polyethylene glycol (0.1%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Chloroform (0.8%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-
Chloroform (100%)	R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	N	R	R	R	R	-

TFF Devices

Centramate™
LV Centramate
Minimate™
Ultrasette™

R	R	R	R	R	R	R	R	-	-	-	R	R	R	R	-	-	R	R	R	-	-	R	-
R	R	R	R	R	R	R	R	-	-	-	R	R	R	R	-	-	R	R	R	-	-	R	-
R	R	R	R	R	R	R	R	-	-	-	R	R	R	R	-	-	R	R	R	-	-	R	-
R	-	R	R	-	-	-	R	R	R	R	R	-	-	R	R	R	-	N	-	R	R	R	N

HH = Halogenated Hydrocarbons

Ultrafiltration Membrane

Alpha™ membrane
Omega™ membrane

Acids										Alcohols										Bases		Esters			
Acetic acid (5%)	R	N	R	R	R	R	N	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	R
Acetic acid (25.5%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Citric acid (1%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Formic acid (5%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Hydrochloric acid (0.1N at 25 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Hydrochloric acid (0.1N at 50 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Lactic acid (5%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Nitric acid (< 1%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Oxalic acid (1%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Phosphoric acid (1%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Sulfuric acid (1N)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Butanol (70%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Butyl cellosolve (10%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Ethanol (70%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Isopropanol (25%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Mercaptoethanol (0.1%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Methyl alcohol (25%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Anilines	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Ammonium hydroxide (5%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Sodium hydroxide (0.1N at 25 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Sodium hydroxide (0.1N at 50 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Sodium hydroxide (0.5M at 25 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Sodium hydroxide (1N at 25 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Sodium hydroxide (1N at 50 °C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Aliphatic & aromatic esters	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Butyl acetate (10%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Ethyl acetate (40%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Isopropyl acetate (< 30%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N
Isopropyl acetate (1%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N	R	R	R	N

AH = Aromatic Hydrocarbons
HH = Halogenated Hydrocarbons

Test Methods

This data is a compilation of testing by Pall Corporation with the listed chemicals. Chemical compatibility was determined with discs. Flux rates and solute retention was determined before and after a two-hour exposure to the indicated chemical. If membrane integrity was unchanged, the chemical was deemed compatible. Membrane integrity for syringe filters was tested by bubble point.

This chart is intended only as a guide. Accuracy cannot be guaranteed. Users should verify chemical compatibility with a

specific filter under actual use conditions. Chemical compatibility with a specific filter under actual use conditions is affected by many variables, including temperature, pressure, concentration, and purity. Various chemical combinations prevent complete accuracy.

Our ultrafiltration membranes have been evaluated for compatibility with many common laboratory buffers and solvents over a wide pH range.

Ketones																																Miscellaneous																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
-	R	R	-	R	-	-	R	-	-	R	-	-	R	-	-	-	R	-	-	R	R	R	-	-	-	R	R	-	-	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Ethers	AH	HH	Ketones	Miscellaneous																										
N	N	N	N	R	N	R	N	N	R	N	R	R	N	N	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
N	R	R	N	R	R	R	N	R	R	R	R	R	N	N	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Caution:

Alcohol residues that are allowed to dry on a filter may cause stress cracks. Therefore, Pall Corporation recommends that filters used in alcohol processing should remain alcohol wet, or should be flushed with copious quantities of water to remove residuals prior to drying and subsequent reuse.

R = Resistant

No significant change was observed in flow rate or bubble point of the membrane, nor visible indication of chemical attack.

L = Limited Resistance

Moderate changes in physical properties or dimensions of the membrane were observed. The filter may be suitable for short term, non-critical use. Hardware or housing may be suitable for short-term exposure at low pressures and ambient temperatures.

N = Not Resistant

The membrane or housing is basically unstable, and is not recommended for use.

- Insufficient Data

Information is not available. Trial testing is recommended.