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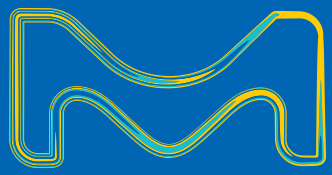
Preparation, Separation,
Filtration & Monitoring Products



Chemical Compatibility Guide for MultiScreen® Filter Plates

Ratings are based on 100% or concentrated solutions, unless otherwise indicated. Aromatic hydrocarbons (especially ketones, DMF, DMAC, DMSO, THF, acetonitrile) and chlorinated hydrocarbons will attack both membranes and plastics. A chemical listed as NR may be suitable in low concentrations for short exposures, but this must be determined on an individual assay basis.

Compatibility of MultiScreen®$_{HTS}$ and MultiScreen® Classic Filter Plates with Various Reagents

Plate Material/Membrane	Polyolefin copolymer/PTFE	Acrylic or Classic Styrene/Durapore®	Acrylic or Styrene/MCE	Barex®/TiO_2/ Durapore®, MCE	Acrylic or Barex®/ TiO_2/Styrene, Immobilon®-P
Acids					
Acetic (5%)	R	R	R	R	R
Acetic, Glacial	R	L to NR	NR	R/L to NR	L
Boric	R	R	R	R	R
Trichloroacetic (<20%)	R	R	R	R	R
Trichloroacetic (20 to 40%)	R	R	L	R/L to NR	L
Trichloroacetic (>40%)	R	L to NR	NR	L/NR	NR
Hydrochloric (0.1N)	R	R	R	R	R
Hydrochloric (1N)	R	R	L to NR	R/L to NR	R to L
Hydrochloric (>1N)	R	R	NR	R/L to NR	R
Hydrofluoric	R	R (20% max.)	NR	NR	R (20% max.)
Nitric (conc)	R	L to NR	NR	NR	L
Sulphuric (conc)	R	L	NR	L/NR	L
Bases					
NH_4OH (6N)	R	L to NR	NR	L to NR	R
NaOH (0.1N)	R	R to L	L to NR	R/L to NR	R
NaOH (1N)	R	L to NR	NR	L/NR	L
NaOH (>6N)	R	NR	NR	NR	NR
Urea	R	R	-	R (Durapore® only)	R
Triethylamine	R	R	R	R	R
Diethanolamine (≤3 mol)	R	R	R	R	R
Alcohols					
Amyl	R	R	NR	R/NR	R
Benzyl (1%)	R	R	R	R	R
Butyl	R	R	R	R	R
Ethanol (40%)	R	R	NR	R	R
Ethanol (≥50%)	R	R	NR	R/NR	R (no filtrate collect.)

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Compatibility of MultiScreen®$_{HTS}$ and MultiScreen® Classic Filter Plates with Various Reagents
(Continued from previous page)

Plate Material/Membrane	Polyolefin copolymer/PTFE	Acrylic or Classic Styrene/Durapore®	Acrylic or Styrene/MCE	Barex®/TiO_2/ Durapore®, MCE	Acrylic or Barex®/ TiO_2/Styrene, Immobilon®-P
Alcohols					
Isobutyl	R	R	R	R	R
Isopropyl	R	R	L to NR	R/L TO NR	R
Methanol	R	R to L	NR	R/NR	R
Triton® X-100™ Surfactant (<1%)	R	R	R	R	R
Solvents					
Acetone	R	NR	NR	NR	NR
Acetonitrile (no filtrate collect, centrifuge)	R	NR	NR	NR	L (35%)
Amyl Acetate	R	NR	NR	R/NR	R
Carbon tetrachloride	R	L to NR	L to NR	R	R
Chloroform	R	NR	NR	NR	NR
Cyclohexanone	R	NR to L	NR to L	R/NR to L	NR to L
DMAC	R	NR	NR	NR	NR
DMF	R	NR	NR	NR	NR
DMSO (no filtrate collect)	R	L (70%)	NR	NR	L (10%) max.
Ethylene Glycol	R	R	R	R	R
Formaldehyde	R	R (10% max.)	NR	R (<40%)/NR	R (<40%)
Hexane	NR	R	R	R	R
Methylene Chloride	L	NR	NR	NR	NR
MEK	R	NR	NR	L/NR	NR
MIBK	R	NR	NR	R	NR/L
Phenol (5%)	R	L to NR	L to NR	R	R
Pyridine	R	R	R	R	R
Scintillants	NR	NR	NR	R	NR/R[(1)]
Triethylamine	R	R	R	R	R
Toluene	NR	NR to L	NR to L	R	NR to L/R
THF	R	NR	NR	L/NR	NR/L
Xylene	R	NR	NR	R	R
Other Organics					
Attophos® reagent	R	R	R	R	R
Fluorescein	R	R	R	R	R
Glycerine	R	R	R	R	R
Hydrogen Peroxide	R	R	NR	R (3%)	R
Polyethylene Glycol	R	R	R	R	R
Tween® (<5%)[(2)]	R	R	R	R	R
Triton® X-100™ Surfactant (<1%)	R	R	R	R	R
Triton® X-100 Surfactant (<5%)	R	R	L	R/L	R
Inorganic Salts					
Carbon Disulfite	R	NR	NR	NR	NR
Sodium Hypochlorite	R	R	NR	R (5%)/NR	R

R = Recommended, no known restrictions, NR = Not recommended, membrane or plate severely attacked by chemical, L = Limited, chemical resistance marginal, short time exposures should be tested individually for application. Dilution with water or other non-solvent will likely enhance compatibility

[1]Scintillants should only be used with Barex® or SAN plates.

[2]Surfactants are in general readily usable with all MultiScreen® plate types. However, before quantitative fluid transfer to a receiver plate, it is essential that the plate be rinsed with nonsurfactant containing fluid (e.g., 100 µL PBS) and then the underdrain be thoroughly blotted prior to adding the material which will ultimately be collected. Triton®-x 100 should not be used with MCE membrane in concentrations greater than 5% (the membrane will appear to lose flow).

Chemical Compatibility Guide for MultiScreen® Vacuum Manifolds

MultiScreen®$_{HTS}$ and MultiScreen® Manifolds

The following tables outline the solvents that have been evaluated for compatibility with the various components of the MultiScreen®$_{HTS}$ and MultiScreen® Vacuum Manifolds. In general the manifolds will tolerate the same chemicals as the rest of the system.

However, when using concentrated acids it is important to rinse through the entire manifold at the end of procedures, especially if collection is done through the manifold into a trap, rather than using the collection trays.

MultiScreen®$_{HTS}$ Vacuum Manifold Components

Component	Manifold Base/ Collar Gasket Frame	Gaskets/ Tubing	Standard Collar	Support Grid	Tubing Fittings	Droplet Trap Array
Materials of Construction	**HDPE Polypropylene, Polyolefin**	**Silicone**	**Nylon**	**Stainless Steel**	**PP with EPDM or FKM Seals**	**PTFE**
Acetone	R	G	G	E	G	E
Acetonitrile	E	G	E	E	G	E
Dimethyl Formamide (DMF)	E	G	R	E	G	E
Dimethyl Sulfoxide (DMSO)	E	G	E	E	G	E
Ethyl Acetate	E	G	E	E	G	E
Ethanol	E	G	G	E	E	E
Formic Acid	E	G	NR	G	G	R
Hexane	NR	NR	R	E	G	E
Hydrochloric Acid (37%)	E	R	NR	R	R	R
Isopropanol	E	E	R	E	E	E
Methanol	E	E	R	E	E	E
Methylene Chloride	NR	NR	R	E	R	E
Sodium Hypochlorite	E	G	NR	G	G	R
Tetrahydrofuran (THF)	R	NR	E	E	NR	E
Toluene	NR	NR	E	E	R	E
Trichloroacetic Acid (TCA)	E	NR	G	G	R	R
Trifluoroacetic Acid (TFA)	E	NR	R	R	G	R

E = Excellent performance, G = Good performance, R = Rinse after contact, NR = Not recommended

Chemical Compatibility Guide for MultiScreen® Vacuum Manifolds

MultiScreen® Resist Vacuum Manifold Components

Component	Manifold Base & Deep Well Ring	Gaskets	Standard Ring	Tubing Inside: Outside	Support Grid	Control Valve	On/Off Valve
Materials of Construction	**HDPE**	**EPDM**	**Nylon**	**FEP-lined Tygon**	**Stainless Steel**	**Brass socket steel case**	**PP with EPDM seal**
Comments				**Crimping can alter resistance**		**Normally no fluid contact**	
Acetone	R-G	G	G-E	E: NR	E	E	G-E
Acetonitrile	E	E	E	E: NR	E	E	G-E
Dimethyl Formamide (DMF)	E	E	R	E: NR	E	E	G
Dimethyl Sulfoxide (DMSO)	E	E	E	E: R	E	E	G
Ethyl Acetate	E	E	E	E: NR	E	G	G-E
Ethanol	E	E	G	E: E	E	E	E
Formic Acid	E	E	NR	G-E: NR	G-E	P-R	G-E
Hexane	R	R	R	R-G: P	E	E	G-E
Hydrochloric Acid	E	E	R-NR	E: R			
Isopropanol	E	E	R	E: G	E	E	E
Methanol	E	E	R	E: G	E	E	E
Methylene Chloride	R	R	R-G	E: NR	E	E	P-R
Sodium Hypochlorite	E	E	NR-P	E: R	G	G	G
Tetrahydrofuran (THF)	R	R	E	E: G	E	E	NR
Toluene	R	R	E	E: R	E	E	R
Trichloroacetic Acid (TCA)	E	E	G	E: G	G-E	R	R-G
Trifluoroacetic Acid (TFA)	E	E	R	E: R	R-G	P-R	G

E = Excellent performance, G = Good performance, R = Rinse after PROLONGED contact, P = Rinse immediately, NR = Not recommended

Chemical Compatibilty of Fixation and Staining Reagents

Chemical	Concentration	Polystyrene (PS) housing	HA (Mixed Cellulose) membrane	CM (PTFE)	PCF (Polycarbonate)	PET (polyteterepthalate)
Methanol	90%	R	NR	R	R	R
Ethanol	95%	R	R	R	R	R
Glacial Acetic Acid	1%	R	R	R	R	R
Paraformaldehyde	4%	R	R	R	R	R
Glutaraldehyde	3%	R	R	R	R	R
Formaldehyde	4%	R	R	R	R	R
Formamide	50%	R	NR	R	R	R
Formamide	100%	R	NR	R	R	R
HCL	1.0%	R	R	R	R	R
Osmium tetroxide	1.0%	R	R	R	R	R
Hematoxylin	100%	R	R	R	R	R
Eosin	1.0%	R	R	R	R	R
Tryptan Blue	0.1%	R	R	R	R	R
Nigrosin	0.2%	R	R	R	R	R
Toludine Blue	0.3%	R	R	R	R	R

R = recommended, NR = not recommended

To learn more, please visit **SigmaAldrich.com/multiscreen**

To place an order or receive technical assistance

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For other countries across Europe and the world, please visit: **SigmaAldrich.com/offices**
For Technical Service, please visit: **SigmaAldrich.com/techservice**

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