

Sample Filtration Guide—Particulate Removal

Agilent Captiva syringe filters and filter vials

Did you know... Using the right filter can improve speed, resolution, and column life?

Particulates can cause high backpressure, retention-time shift, resolution loss, and shorter column life. Agilent Captiva syringe filters and filter vials remove particulates, and are ideal for simple mechanical filtration. Agilent Captiva filter vials replace the combination of syringe filters, syringes, autosampler vials, septa, and caps with a single unit for a faster and more convenient workflow.

How to use Agilent Captiva filter vials



How to use Agilent Captiva syringe filters



Chemical compatibility chart for syringe filters and filter vials

Compatible Limited compatibility Not compatible

	Polyethersulfone Membrane	Regenerated Cellulose Membrane	Nylon Membrane	Polypropylene Membrane	Cellulose Acetate Membrane*	Polytetrafluorethylene Membrane	Glass Fiber Membrane*	Polypropylene Housing	Methacrylate Butadiene Styrene Housing
Syringe filters	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
Filter vials	Compatible	Compatible	Compatible	Not compatible	Not compatible	Not compatible	Not compatible	Compatible	Not compatible
Solvents									
Acetone	Not compatible	Compatible	Compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Not compatible
Acetonitrile	Not compatible	Compatible	Not analyzed	Limited compatibility	Not compatible	Compatible	Compatible	Compatible	Not compatible
Benzene	Not compatible	Compatible	Compatible	Not compatible	Limited compatibility	Compatible	Compatible	Compatible	Not compatible
Benzyl alcohol	Not compatible	Compatible	Compatible	Compatible	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible
n-Butanol	Limited compatibility	Compatible	Compatible	Compatible	Limited compatibility	Compatible	Compatible	Compatible	Compatible
Chloroform	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible	Compatible	Compatible	Compatible	Not compatible
Cyclohexane	Not compatible	Compatible	Compatible	Compatible	Limited compatibility	Compatible	Compatible	Limited compatibility	Limited compatibility
Diethylacetamide	Not compatible	Compatible	Compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Not compatible
Diethyl ether	Not compatible	Compatible	Compatible	Limited compatibility	Limited compatibility	Compatible	Compatible	Compatible	Not compatible
Dimethyl formamide	Not compatible	Limited compatibility	Limited compatibility	Compatible	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible
Dioxane	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible	Compatible	Compatible	Compatible	Not compatible
Ethanol, 98%	Compatible	Compatible	Compatible	Compatible	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible
Ethyl acetate	Not compatible	Compatible	Compatible	Limited compatibility	Limited compatibility	Compatible	Compatible	Limited compatibility	Not compatible
Ethylene glycol	Compatible	Compatible	Compatible	Compatible	Limited compatibility	Compatible	Compatible	Compatible	Not compatible
Formamide	Compatible	Compatible	Compatible	Not analyzed	Not compatible	Compatible	Compatible	Compatible	Compatible
Glycerin	Compatible	Compatible	Compatible	Not analyzed	Limited compatibility	Compatible	Compatible	Limited compatibility	Compatible
n-Heptane	Compatible	Compatible	Compatible	Not compatible	Limited compatibility	Compatible	Compatible	Compatible	Limited compatibility
n-Hexane	Compatible	Compatible	Compatible	Not compatible	Limited compatibility	Compatible	Compatible	Limited compatibility	Limited compatibility
Isopropanol	Compatible	Compatible	Compatible	Compatible	Limited compatibility	Compatible	Compatible	Compatible	Limited compatibility
Methanol, 98%	Limited compatibility	Compatible	Compatible	Compatible	Not compatible	Compatible	Compatible	Limited compatibility	Compatible
Methylene chloride	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible	Compatible	Compatible	Compatible	Not compatible
Methyl ethyl ketone	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible
Pyridine	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible	Compatible	Compatible	Compatible	Not compatible
Tetrahydrofuran	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible	Compatible	Compatible	Compatible	Not compatible
Toluene	Not compatible	Compatible	Compatible	Not compatible	Limited compatibility	Compatible	Compatible	Not analyzed	Not compatible
Xylene	Not compatible	Compatible	Compatible	Not compatible	Limited compatibility	Compatible	Compatible	Limited compatibility	Not compatible
Acids									
Acetic acid, 25%	Limited compatibility	Compatible	Not compatible	Compatible	Limited compatibility	Compatible	Compatible	Limited compatibility	Not compatible
Acetic acid, 80%	Not analyzed	Compatible	Not compatible	Compatible	Not compatible	Compatible	Limited compatibility	Limited compatibility	Not compatible
Hydrochloric acid, 20%	Compatible	Not compatible	Not compatible	Compatible	Not compatible	Compatible	Compatible	Limited compatibility	Limited compatibility
Hydrofluoric acid, 25%	Limited compatibility	Limited compatibility	Not compatible	Compatible	Not compatible	Compatible	Limited compatibility	Limited compatibility	Limited compatibility
Nitric acid, 25%	Limited compatibility	Not compatible	Not compatible	Compatible	Not compatible	Limited compatibility	Compatible	Limited compatibility	Limited compatibility
Phosphoric acid, 1%	Compatible	Not compatible	Not compatible	Compatible	Limited compatibility	Compatible	Compatible	Limited compatibility	Limited compatibility
Sulfuric acid, 25%	Limited compatibility	Limited compatibility	Not compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Limited compatibility
Trichloroacetic acid, 10%	Not analyzed	Compatible	Not compatible	Compatible	Not compatible	Compatible	Compatible	Limited compatibility	Not compatible
Bases									
Ammonium hydroxide, 25%	Limited compatibility	Limited compatibility	Compatible	Compatible	Limited compatibility	Compatible	Limited compatibility	Limited compatibility	Not compatible
Sodium hydroxide, 1N	Compatible	Limited compatibility	Compatible	Compatible	Not compatible	Compatible	Limited compatibility	Compatible	Not compatible
Aqueous solutions									
Formalin, 30%	Limited compatibility	Limited compatibility	Compatible	Compatible	Compatible	Compatible	Compatible	Limited compatibility	Limited compatibility
Hydrogen peroxide, 30%	Compatible	Not compatible	Not compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Limited compatibility
Sodium hypochlorite, 5%	Compatible	Not compatible	Not compatible	Not analyzed	Not compatible	Compatible	Compatible	Limited compatibility	Limited compatibility
pH range									
pH 1–14	Not compatible	Not compatible	Not compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Not compatible
pH 1–13	Compatible	Not compatible	Not compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Not compatible
pH 3–14	Limited compatibility	Limited compatibility	Compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Not compatible
pH 3–12	Compatible	Compatible	Compatible	Compatible	Not compatible	Compatible	Compatible	Compatible	Limited compatibility
pH 4–8	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible

TIPS

Important:
*CA and GF membranes in MBS housing for 28 mm size.

Solvents in bold type:
Contact time is 24 hours at 20 °C.

Many factors can influence chemical compatibilities. We recommend that you confirm compatibility with the liquid you want to filter by performing a trial filtration run. Agilent Captiva syringe filters are for laboratory use only. Use caution with syringes smaller than 10 mL because they can generate enough pressure to burst the syringe filter. Use the particle size of your HPLC column to choose an appropriate pore size of your filter to eliminate clogging.