

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 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Filter vials | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Solvents | | | | | | | | | |
| Acetone | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Acetonitrile | ● | ● | Not analyzed | ● | ● | ● | ● | ● | ● |
| Benzene | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Benzyl alcohol | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| n-Butanol | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Chloroform | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Cyclohexane | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Diethylacetamide | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Diethyl ether | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Dimethyl formamide | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Dioxane | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Ethanol, 98% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Ethyl acetate | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Ethylene glycol | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Formamide | ● | ● | ● | Not analyzed | ● | ● | ● | ● | ● |
| Glycerin | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| n-Heptane | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| n-Hexane | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Isopropanol | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Methanol, 98% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Methylene chloride | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Methyl ethyl ketone | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Pyridine | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Tetrahydrofuran | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Toluene | ● | ● | ● | ● | ● | ● | ● | Not analyzed | ● |
| Xylene | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Acids | | | | | | | | | |
| Acetic acid, 25% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Acetic acid, 80% | Not analyzed | ● | ● | ● | ● | ● | ● | ● | ● |
| Hydrochloric acid, 20% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Hydrofluoric acid, 25% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Nitric acid, 25% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Phosphoric acid, 1% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Sulfuric acid, 25% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Trichloroacetic acid, 10% | Not analyzed | ● | ● | ● | ● | ● | ● | ● | ● |
| Bases | | | | | | | | | |
| Ammonium hydroxide, 25% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Sodium hydroxide, 1N | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Aqueous solutions | | | | | | | | | |
| Formalin, 30% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Hydrogen peroxide, 30% | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Sodium hypochlorite, 5% | ● | ● | ● | Not analyzed | ● | ● | ● | ● | ● |
| pH range | | | | | | | | | |
| pH 1–14 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| pH 1–13 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| pH 3–14 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| pH 3–12 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| pH 4–8 | ● | ● | ● | ● | ● | ● | ● | ● | ● |

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.



Once you've found your perfect filter, place your order at:
www.agilent.com/chem/filtration