

User Guide

Millex® (13 mm) Sterile Syringe Filter

with Durapore® Membrane

SLGVR13SL
SLHVR13SL

Single Use Only. For Research Use Only.

Introduction

The 13 millimeter (mm) Millex®-GV and HV are syringe-operated filters for the sterilization or clarification of aqueous solutions (column eluates, tissue culture additives, protein pharmaceuticals, etc.) in volumes of 0.5 to 10 milliliters (mL). These solvent resistant, single-use filters incorporate the low-protein binding Durapore® polyvinylidene fluoride membrane.

How to Use the Millex® Filter

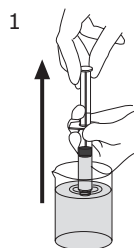
WARNINGS:

- To ensure sterility, do not use this product if the package is damaged.
- Do not use this product as an in-line filter; it was not designed for long-term continuous use.
- Do not use with syringes smaller than 10 mL because pressures in excess of the maximum pressure rating may be reached, potentially causing damage to the filter.

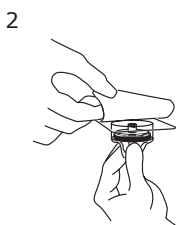
CAUTIONS:

- Do not resterilize or reuse the Millex® filter, as we cannot assure the sterility, integrity, and performance beyond a single use.
- Do not use the Millex® filter at temperatures above 45 °C (113 °F).
- Do not use the same Millex® filter to filter solutions in both directions.
- Do not use the Millex® filter to filter emulsions or suspensions.
- Do not use the Millex® filter to filter 5 mg or less of active materials unless binding studies have been performed.

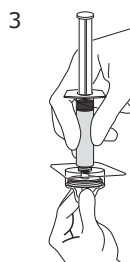
Instructions for use



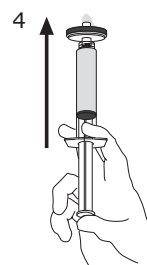
1
Fill syringe with solution to be filtered.



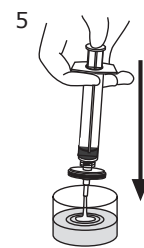
2
Aseptically remove cover from package.



3
Attach syringe to filter and remove assembly from package. Attach needle to Luer-slip outlet if necessary.



4
Hold syringe with filter (and needle if attached) pointing up and "top off" by pushing a few drops through. Do not contaminate underside of filter with fingers.



5
Insert needle (if attached) and push plunger to deliver filtered solution.

Specifications

Materials

Membrane	Low binding hydrophilic polyvinylidene fluoride (PVDF) Pore size: Millex®-GV filter: 0.22 µm Millex®-HV filter: 0.45 µm
Housing	High density polyethylene (HDPE)

Dimensions

Inlet to outlet	21.1 mm (0.83 in.)
Diameter	14.7 mm (0.58 in.)
Filtration area	0.65 cm ² (0.10 in ²)

Temperature limit	45 °C (113 °F) maximum
Housing Pressure at 21 °C	5.2 bar (75 psi) inlet and differential
Filtration volume	0.5–10 mL
Hold-up volume	≤ 50 µL after air purge
Sterilization method	Ethylene oxide gas
Connections	Female Luer-Lok™ inlet; male Luer-slip outlet
Millex®-GV Filter Flow Rate	≥ 7 mL/min at 2.1 bar, 21 °C (30 psi, 70 °F)
Millex®-HV Filter Flow Rate	≥ 12 mL/min 0.7 bar, 21 °C (10 psi, 70 °F)

Chemical Compatibility

Millex® filters with Durapore® membrane are compatible with most aqueous solutions. Based on information from technical publications, materials suppliers, and laboratory tests, we believe that the agents listed in the following table are safe to use with Millex® filters. However, because of the effects of variability in temperature, concentrations, duration of exposure, and other factors outside of our control, We do not provide or imply a warranty with respect to this information. Agents that are not listed should be tested with the Millex® filters prior to use.

Chemicals

Acetic acid (5%)	Ethylene glycol	Isopropyl alcohol
Acetic acid, glacial	Formaldehyde	Kerosene
Acetonitrile	Freon® solvent, TF or PCA	Methyl alcohol
Ammonium hydroxide (6 N)	Gasoline	Mineral spirits
Amyl alcohol	Glycerine (glycerol)	Pentane
Benzyl alcohol (1%)	Helium	Petroleum based oils
Boric acid	Hexane	Phenol (0.5%)
Brine (sea water)	Hydrochloric acid	Silicone oils
Butyl alcohol	Hydrofluoric acid	Sodium hydroxide
Cyclohexanone	Hydrogen (gas)	Trichloroacetic acid
Developers (photo)	Hypo (photo)	Trichloroethane
Ethyl alcohol	Isobutyl alcohol	

Product Ordering

Purchase products online at SigmaAldrich.com/products.

Description	Pore Size, µm	Membrane	Cat. No.	Qty/pk
Millex®-GV	0.22	PES membrane	SLGVR13SL	100
Millex®-HV	0.45	PES membrane	SLHVR13SL	100

Notice

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