User Guide

Millex® 25 mm Non-Sterile Syringe Filter

REF SLFG025NS, SLFG025NB, SLFG025NK, SLFH025NS, SLFH025NB, SLFH025NK, SLLS025NS, SLCR025NK

Non-sterile.
For laboratory use only.
Single-use only.

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Introduction

This document provides chemical compatibility information, operating steps, and specifications for the Millex® 25 millimeter (mm) syringe filter with male Luer-slip outlet. This syringe filter is non-sterile, single-use, and disposable.

The Millex® syringe filter consists of a membrane sealed in a high density polyethylene (HDPE) housing. For details on the type of membrane in your Millex® syringe filter, see the "Specifications" section. The 25 mm syringe filter is recommended for filtering 10–100 milliliter (mL) volumes to remove particles prior to instrumentation analysis.

Syringe filter	Membrane	Application
FG	0.2 µm PTFE	Filtration of organic solutions. Also used for venting applications.
FH	0.45 µm PTFE	Clarify organic solutions.
LCR	0.45 µm PTFE	Clarifying protein-containing solutions, as well as aqueous or organic solutions
LS	5.0 µm PTFE	Remove particles from organic solvents.

Chemical Compatibility

The Millex® 25 mm syringe filter with male Luer-slip outlet is compatible with aqueous, mild organic, and organic solutions. You can use it to filter the agents listed in the following table. This information was developed from technical publications, materials suppliers, and laboratory tests, and is believed to be accurate and reliable. However, because of variability in temperature, concentrations, exposure time, and other factors outside of our control that may affect the use of the unit, we do not provide or imply a warranty with respect to such information.

Agents not listed should be tested with the Millex® 25 mm syringe filter prior to use.

Note: For low extractable HPLC instrumentation analysis applications, it is recommended that you discard the first 1 mL or rinse with 1 or 2 mL of primary solvent before sample filtration.

Chemicals

Acetic acid, glacial
Ammonium sulfate (saturated)
Amyl acetate
Amyl alcohol[1]
Boric acid
Butyl alcohol[1]
Cellosolve® (ethyl) solvent
Cyclohexane
Cyclohexanone[1]
Dimethylacetamide
Dimethylformamide
Dimethylsulfoxide
Ethyl acetate
Ethyl alcohol[1]
Ethylene glycol
Formaldehyde
Formic acid (50%)
Freon® (TF or PCA) solvent
Glycerine (glycerol)
Helium (gas)
Hydrochloric acid
Hydrofluoric acid
Hydrogen (gas)
Hydrogen peroxide (≤ 30%)
HYPO (sodium thiosulfate)
Isobutyl alcohol[1]
Isopropyl acetate
Isopropyl alcohol[1]
Methyl alcohol[1]
Methyl ethyl ketone
Methyl isobutyl ketone[1]
Nitrogen (gas)
Paraldehyde
Perchloroethylene
Petroleum based oils
Potassium hydroxide (3 N)
Pyridine
Silicone oils[1]
Sodium chloride (2 M)
Sodium hydroxide (3 N)
Sulfuric acid (3 N)
Tetrahydrofuran
Trichloroacetic acid (aqueous solution)
Urea (8 M)

[1] Application dependent, may wet out membrane and leak through.

Disposal

Follow precautions for disposal of items contaminated with hazardous material according to all applicable international, federal, state, and local regulations.

How to Use Millex® 25 mm Syringe Filters

WARNINGS

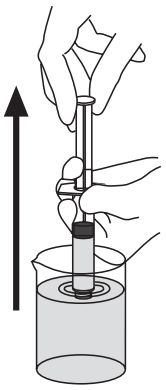
- Do not use the Millex® 25 mm syringe filter for direct patient care applications; it is designed for laboratory use only.
- Do not use with syringes smaller than 10 mL because pressures in excess of the maximum pressure rating may be reached, potentially causing damage to the syringe filter and/or personal injury.
- Sudden loss of pressure could indicate a failure of the filter.
- Single use only; do not re-use.
- Make sure to wet the filter membrane thoroughly before injecting the solution; improperly wetted filters can become airlocked.
- Do not use this filter as an in-line filter.
- Discard appropriately after single use. See "Disposal".

CAUTIONS

- Do not use the 25 mm syringe filter at temperatures above 45 °C (113 °F).
- Perform a binding study before use if there is a concern about loss of analyte (proteins, nucleic acid, active pharmaceuticals) due to binding.
- Do not use the same 25 mm syringe filter to filter solutions in both directions.
- Do not use the syringe filter to filter emulsions or suspensions.

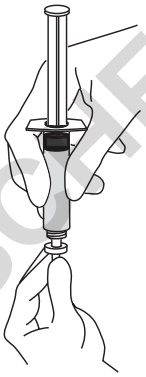
Instructions for Use

1



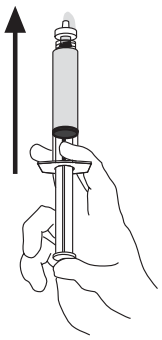
Fill the syringe with the solution to be filtered.

2



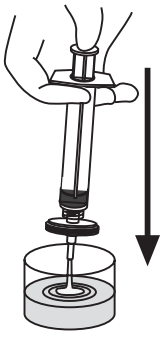
Attach the syringe to the Millex® syringe filter.

3



Hold the syringe with filter pointing up and "top off" by pushing a few drops through the filter. ⚠ Excess solution may be hazardous and should be disposed of with care.

4



Push the syringe plunger to deliver a filtered solution.

Optional: To purge the unit and maximize sample throughput, remove the Millex® filter from the syringe, draw air into the syringe, reattach the Millex® filter, and push the plunger to force some of the air through the filter.

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Specifications

Housing	High density polyethylene (HDPE)
Membrane	
FG, FH, LS	Hydrophobic Fluoropore® polytetrafluoroethylene (PTFE)
LCR	Hydrophilic PTFE
Dimensions	
Inlet to outlet	19.8 mm (0.8 in.)
Diameter	30 mm (1.2 in.)
Filtration surface area	3.9 cm^2 (0.6 in^2)
Pore size	
FG	0.2 µm
FH, LCR	0.45 µm
LS	5.0 µm
Temperature limit	45 °C (113 °F) maximum
Pressure limit at 21 °C	6.9 bar (100 psi) differential
Filtration volume	≤ 100 mL
Hold-up volume	
FG, FH, LCR	≤ 0.1 mL after air purge at pressure that exceeds bubble point of the membrane
LS	≤ 0.3 mL after air purge at pressure that exceeds bubble point of the membrane
Typical average flow rate at 21 °C and 10 psi	
FG	70 mL/min (methanol)
FH	275 mL/min (methanol)
LCR	70 mL/min (water)
LS	220 mL/min (water)
Connections	Female Luer-Lok™ inlet, Male Luer-slip outlet

HPLC Certification

Millex®-LCR syringe filters are tested for UV-absorbing extractables. HPLC analysis of 1 mL samples of both acetonitrile and water collected after discarding the first 1 mL of solvent showed no peaks greater in intensity than 0.004 AUFS (after the column frontal volume) at either 214 nm or 254 nm.

Product Ordering

Purchase products online at SigmaAldrich.com/Products.

Millex® Syringe Filter	50/pk	250/pk	1000/pk
FG	SLFG025NS	SLFG025NB	SLFG025NK
FH	SLFH025NS	SLFH025NB	SLFH025NK
LCR	-	-	SLCR025NK
LS	SLLS025NS	-	-

Notice

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Symbol Definitions

Symbol	Definition	Symbol	Definition
	Non-sterile		HPLC Certified
	Consult instructions for use		Date of manufacture
	Do not re-use		Manufacturer
	Catalogue number		Caution
	Batch code		

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