

Chemical Resistance Properties of PureFlo® Filter Product Families

This document is intended for general guidance in filter selection based on chemical resistance only. It contains information pertaining to Saint-Gobain Life Sciences' PureFlo® Z Series PES, PureFlo® PES, PureFlo® PES with gamma-stable materials of construction (indicated by a-GP in the part number suffix), PureFlo® PTFE, and PureFlo® PE filter product families with materials of construction as defined in the table below:

Component	PureFlo® Product Family				
	Z Series PES	PES	PES (-GP suffix)	PTFE	PE
Membrane	PES	PES	PES	PTFE	Polyethylene
Support Material	Polyester	Polypropylene	Polyester	Polypropylene	Polyethylene
Shell, Cage, Core	Polypropylene, Nylon	Polypropylene	Polypropylene	Polypropylene	Polyethylene
Endcaps	Nylon	Polypropylene	Polypropylene	Polypropylene	Polyethylene
O-ring (when present)	Silicone	Silicone	Silicone	Silicone	Silicone

The following ratings were assigned to each product family based on the result of careful examination of reputable published information¹ on the chemical resistance of each component. They assume each component of the filter has a uniform chemistry, the solutions are pure and that exposure is at 20 °C.

Rating	Definition
R = Recommended	Published guides gave the highest ratings for all materials of construction in this product family indicating little to no impact after exposure to the listed chemical.
L = Limited Use	Published information suggests that the materials of construction in this product family may be suitable for limited use. One or more of the materials of construction may undergo some chemical attack that could impact performance (e.g. working pressure, flow rate, retention efficiency) and this may not be acceptable for certain applications. Testing is strongly recommended before use.
N = Not Recommended	Published guides gave low ratings for one or more materials of construction in this product family. Please contact Saint-Gobain Life Sciences for assistance in alternative material selection for your application.

Chemical resistance of materials is dependent upon many factors such as concentration, temperature, pressure, time, and presence of other chemicals. Therefore, we recommend that you confirm compatibility through testing of your fluid with the filter under actual process conditions to confirm your performance criteria are met. Chemical compatibility is just one of many critical factors that should be assessed during the filter selection process. For additional guidance on filter selection and testing please contact us at www.biopharm.saint-gobain.com.

IMPORTANT: All data in this document is for informational purposes only and shall not be deemed as an express or implied warranty by Saint-Gobain Life Sciences. It is the user's responsibility to determine and ensure that suitability and safety of Saint-Gobain Life Sciences products.

¹References:

1. Compass Corrosion Guide II, Compass Publications, Kenneth M.Pruett, 1983.
2. Chemical Resistance Guide for Elastomers, Compass Publications, Kenneth M.Pruett, 1988.
3. <http://www.customadvanced.com/chemical-resistance-chart.html>
4. <https://www.repligen.com/resources/knowledge-base/references/chemical-compatibility>

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Chemical (20 °C, up to 24 hours)	PureFlo® Product Family									
	Silicone O-rings present					No silicone O-rings present				
	Z Series PES	PES	PES (-GP)	PTFE	PE	Z Series PES	PES	PES (-GP)	PTFE	PE
Acetic acid	N	L	N	L	L	N	R	N	R	R
Acetone	N	N	N	N	N	N	N	N	R	L
Ammonium hydroxide	R	R	R	R	R	R	R	R	R	R
Benzyl alcohol	N	N	N	R	L	N	N	N	R	L
Boric acid 10%	R	R	R	R	R	R	R	R	R	R
Boric acid 5%	R	R	R	R	R	R	R	R	R	R
Carbon Tetrachloride (dry)	N	N	N	N	N	N	N	N	R	N
Carbon Tetrachloride (wet)	N	N	N	N	N	R	R	R	R	L
Chloroform	N	N	N	N	N	N	N	N	L	L
Citric acid (concentrated)	L	R	R	R	R	L	R	R	R	R
Citric acid, 40%	R	R	R	R	R	R	R	R	R	R
Cyclohexanone	N	N	N	N	N	N	N	N	L	R
Dimethyl sulfoxide (DMSO)	N	N	N	N	N	N	N	N	R	R
Ethyl acetate	R	R	R	R	L	R	R	R	R	L
Ethylene glycol	R	R	R	R	R	R	R	R	R	R
Formaldehyde	L	L	L	L	L	L	R	R	R	R
Glycerol	R	R	R	R	R	R	R	R	R	R
Hexane	N	N	N	N	N	R	R	R	R	L
Hydrochloric acid	N	N	N	N	N	R	R	R	R	R
Hydrogen peroxide, < 90%	N	L	L	L	L	N	R	R	R	L
Isopropyl alcohol (IPA)	L	R	R	R	R	L	R	R	R	R
Isobutyl alcohol	R	R	R	R	R	R	R	R	R	R
Methanol	N	N	N	N	N	L	R	R	R	R
Nitric acid, 60%	N	N	N	N	N	N	N	N	N	N
Ozone	N	N	N	N	L	N	N	N	N	L

R = Recommended, L = Limited Use, N = Not Recommended

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	Z Series PES	PES	PES (-GP)	PTFE	PE	Z Series PES	PES	PES (-GP)	PTFE	PE
Phenol, 10%	N	N	N	N	N	N	L	N	R	N
Phosphoric acid (aerated)	N	N	N	N	N	L	L	L	L	L
Phosphoric acid (air free)	N	N	N	N	N	L	L	L	L	L
Potassium hydroxide	L	R	L	R	R	L	R	L	R	R
Pyridine	N	N	N	N	N	N	N	N	R	R
Sodium hydroxide	N	L	N	L	L	N	R	N	R	R
Sodium hypochlorite	L	R	R	R	R	L	R	R	R	R
Sulfuric acid (aerated)	N	N	N	N	N	N	N	N	L	R
Sulfuric acid (air free)	N	N	N	N	N	N	N	N	L	R
Tetrahydrofuran (THF)	N	N	N	N	N	N	N	N	L	L
Urea	N	N	N	R	R	N	N	N	R	R

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Don't see what you're looking for?
Please let us know! We're here to help.

We appreciate and value your feedback. This guide was created with the intention to help our customers find the information that they need more easily. If there is information that you would like to see added to this document or if you have any questions about the information provided, please let us know.