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Chemical Resistance Chart

FDM 3D-Print Filaments

Solvent resistance was tested by submerging the specimen for 30 days in solvent at R.T.

✓ Excellent or Good Resistance ! Partial or Limited Resistance ✗ No Resistance Blank spaces: n/a

	ABS	CBC*	PA	PC	PEEK	PEI	PEN*	PETG	PLA	PMMA	PP	PPS	PPSU	PVDF*	TPU
Acetic acid (10%)	✓	✓	!	✓	✓	✓	✓	✓	✓	!	✓	✓	✓	✓	!
Acetic acid (40%)	!	✓	✗	✗	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✗
Acetone	✗	✓	✓	✗	✓	!	!	✗	✗	✗	✓	✓	✗	✗	!
Acetonitrile	✗	✓		✗	✓	✓	✓	!	✗	✗	!	✓	!	✓	✗
Ammonium chloride (25%)					✓		✓	✓		✓		✓		!	✓
Benzene	✗	✗	✓	✗	✓	✓	✓	!	!	✗	!	✓	!	✓	!
Cyclohexane	✓	✗	✓	✗	✓	✓	✓	✓		!	✗	✓	✓	✓	✓
Cyclohexanol	✗		✓	✓	✓	✓	✓			✗	!	✓		✓	!
Calcium chloride (10%)					✓		✓	✓		✓	✓	✓		✓	✓
Chloroform ($CHCl_3$)	✗		✗	✗	✓	!	✗	✗	✗	✗	!	✓	✗	✓	✗
Chromic acid (10%)					✓	✓	✓	✓		!	!	✓		✓	!
Chlorobenzene	✗		✗	✗	✓	!	✓	!	✗	✗	✗	✓	!	✓	✗
Citric acid (10%)	✓		✓	✓	✓	✓	✓	✓	✓		✗	✓	✓	✓	✓
Dichloromethane	✗	✗	✗	✗	✓	✓	!			✗	✓	✓		✓	✗
Diethyl ether		✗	✓	✗	✓	✓	✓	✓		✗	!	✓	✓	✓	✓
Dimethyl sulfoxide (DMSO)(50%)	✗	✓		✗	✓	✓	✓	✓	✗	✗	✓	✓		!	
Dimethyl sulfoxide (DMSO)	✗	✓		✗	!	!	✗	✗	✗	✗	✓	✓		!	
Dimethyl formamide (DMF)	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓		✗	
1,4-Dioxane					✓	✓	✗	✗	✗	✗	✓	✓	!	✗	✗
Ethanol	✓	✓	✓	✓	✓	✓	✓	✓	!	!	✓	✓	✓	✓	✗
Ethyl acetate		✓		✗	✓	!	✓	✓	✓	✗	✓	✓	✗	✗	✗
Ethylene diamine					✓	!	!			✗	✓	✓		✓	
Ethylene glycol				✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Formaldehyde (40%)	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✗
Formic acid (10%)	✓				✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	!
Formic acid (30%)					✓	✗	!		✗	✗	✓	✓	✓	✓	✗
Gasoline	!	✗	✓	✗	✓	✓	✓	✓	!	✗	✓	✓	✓	✓	✓
Glycerol					✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Hexanes	✓	✗			✓	✓	✓	✓		!	✓	✓	✓	✓	!
Hydrobromic acid (10%)			✗		✓	✓	✓	✓	✗		✓	✓		✓	
Hydrobromic acid (47%)			✗		!	✓	!	✗	✗		✓	✓		✓	
Hydrochloric acid (10%)		✓	✗	✓	✓	✓	✓	✓	✗	!	!	!	✓	✓	!
Hydrochloric acid (37%)	✓	✓	✗	!	✓	!	!	!	✗	✗	✓	!	!	✓	✗
Hydrofluoric acid (5%)			✗	✓	✓	✓	✓		✗	✓	✓	✗		✓	✗
Hydrofluoric acid (50%)	✓		✗	!	!	✓	✗		✗	✗	✓	✓		✓	✗
Hydrogen peroxide (30%)	!	✓	✗	✓	✓	✓	✓	✓	✓	!	✓	!	✓	✓	✓
Isopropyl alcohol (IPA)	!	✓	✓	!	✓	✓	✓	✓	!	✓	✓	!		✓	✗
Methanol	✗	✓	✓		✓	✓	✓	✓		!	✓	✓	✓	✓	✗
Methyl ethyl ketone (MEK)	✗	✓	✓	✗	✓	!	✓	!	✗	✗	✓	✓	✓	✗	!
Nitric acid (10%)	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	!
Nitric acid (20%)	✗	✓	✗	!	✓	✓	✓	!	✗	✓	✓	✓	✓	✓	✗
Nitric acid (67%)	✗	✓	✗	✗	✓	✓	✗	✗	✗	✗	✓	✓	✗	✓	✗
Pyridine					✓	!	✗	✗		✗	!	✓	!	✗	✗
Phosphoric acid (10%)	✓		✗	✓	✓	✓	✓	✓	✗	✓	✓	!		✓	✓
Phosphoric acid (85%)	✓		✗	!	✓	!	✗	✗	✗	✗	✓	✓		!	✗
Potassium hydroxide (10%)	✓	✓	✓	!	✓	✓	✓	✓	!	✓	✓	✓	✓	✓	✓
Potassium hydroxide (30%)	✓	✓	✓	✗	✓	✓	✓	!	✗	✓	✓	✓	✓	!	!

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	ABS	CBC*	PA	PC	PEEK	PEI	PEN*	PETG	PLA	PMMA	PP	PPS	PPSU	PVDF*	TPU
Sulfuric acid (10%)	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	!
Sulfuric acid (30%)	✗	✓	✗	✗	!	!	!	✗	✗	✓	✓	✓	✓	✓	✗
Sulfuric acid (>80%)			✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗
Sodium acetate (40%)	✓				✓		✓			✓	✓	✗		✓	✓
Sodium chloride (sat.) (32%)	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sodium bicarbonate (sat.)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Sodium hydroxide (10%)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Sodium hydroxide (30%)	✓	✓	✓	!	✓	✓	✓	!		✓	✓	✓	✓	!	!
Sodium hypochlorite (bleach)		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✗
Styrene (monomer)	✗		✓	✗			✓			✗	✓	✓		✓	
Tetrahydrofuran (THF)	✗	!	✓	✗	✓	!	!	✓		✗	!	✓		!	!
Toluene	✓	✗	✓	✗	✓	✓	✓	!	!	✗	✗	✓	✓	✓	!
Triethanolamine			✓	!	✓		!			✗	✗	✓	✓	!	
Vinyl chloride (monomer)						!	✓							✓	
Xylene	✗	✗	✓	✗	✓	!	✓			✗	✗	✓		✓	✗

For advisory and reference use:
Temperatures, exposure times, chemical concentrations may affect material performance.
On-site testing is strongly advised before use.

*PEN, CBC and PVDF is tested using 3D-printed ASTM D638 specimen by Team FLXR.
For latest rev: www.flxr.engineering

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