

Chemical resistance of PP and PE

Chemicals	Concentration in %	Other names	Temperature °C	PE ^{*1}	PP ^{*2}	PC ^{*3}	Steam pressure at 20 °C (hPa)	Density at 20 °C (mg/μL)	Viscosity at 20 °C (mPas)	Remarks
Acetaldehyde	40	Ethanal	20 60	0 3	1 1	3	1006	0.78		
Acetic acid	25-60	Ethane acid	40 60	1 1	1 1	0		1.06	1.22	
Acetone	100	Dimethylketone	20 60	2 3	1 2	3	246	0.79		
Ammonium hydroxide	30		60	1	2	0	483	0.89		
Aniline	100		20 60	1 1	1 1	3		1.02	4.4	
Benzene	100		20 60	2 3	2 3	3		0.88		
Benzine	100		20 60	2 3	2 3	2				
Butanol	up to 100	Butyl alcohol	20 60	1 2	1 2	1		0.81		
Chloroform	100	Trichlormethane	20 60	2 3	2 3	3	213	1.47		
Diethyl ether			20 60	2 3	2 0	3	587	0.71		
Dimethylformamide	100		20 60	1 2	1 1	3		0.94		
Dioxane	100		20 60	1 2	2 2	3		1.03	1.32	
Ethanol	96	Ethyl alcohol	20	2	2	1	58	0.8	1.52	
Ethyl acetate	100		20 60	1 2	1 2	0	98	0.9		
Formaldehyde	40	Methanal	40 60	1 1	1 1	1				
Formic acid	85	Methanoic acid	20 60	1 1	1 2	0		1.19	1.4	
Glycerol	each		60	1	1	2		1.26	1480	
Hydrochloric acid	37		20 60	1 2	1 1	2	190	1.18	1.9	
Hydrofluoric acid	up to 40		20 60	1 1	1 1	3		1.14		Warning! Corrosive! Attacks the ceramic piston of the pipette.
Isopropanol	each	Isopropyl alcohol	60	1	1	2	43	0.78		
Methanol	100	Methyl alcohol	40 60	1 2	1 1	0	129	0.79		
Methylene chloride	100	Dichlormethane	20 40	3 3	2 3	3	475	1.3		
Nitric acid	65		20 60	3 3	3 3	3		1.51	1.77	Pipette must be adjusted
Perchloric acid	70		20 60	1 3	0	0		1.68		Pipette must be adjusted
Petroleum ether	100		20 60	2 2	1 2	2	58			
Phenol	90		20 60	1 2	1 1	2		1.07		
Phosphorus acid	80		20 60	1 1	1 1	0		1.69	30	Pipette must be adjusted
Pyridine	100		20 60	1 2	2 2	3	20.5	0.98		
Sodium hydroxide	up to 40		40 60	1 1	1 1	3		1.43	37	
Sodium hypochlorite			20 60	2 3	1 2	0		1.2		
Sulfuric acid	96		20 60	2 3	2 3	3		1.84	27	Pipette must be adjusted
Tetrachlormethane	100	Carbon tetrachloride	20 60	3 3	3 3	3	120	1.59		Pipette must be adjusted
Tetrahydrofuran	100		20 60	3 3	2 3	3	173	0.89		
Toluene	100		20 60	2 3	2 3	0		0.87		
Trichloroacetic acid	100	TCA	20 60	2 3	1 1	3		1.61		Pipette must be adjusted
Trichlorethene	100		20 60	3 3	2 2	3	78	1.46		Pipette must be adjusted

*1 PE = Polyethylene; *2 PP = Polypropylene; *3 PC = Polycarbonate; 1 = resistant; the material does not change even after longer contact with the appropriate substance. 2 = conditionally resistant; if the material gets in contact with the substance only for a short time it does not change. 3 = non-resistant; the material already changes after a short contact with the substance. 0 = no existing value. Source: Carlowitz, B.: Kunststofftabellen. 4. Aufl. München: Hanser, 1995.-ISBN 3-446-17603-9.