Chemical resistance of plastics

Highly resistant
Limited resistance
Not resistant

Reagent	Concentration	at + °C %	Polyamide PA 6	Polyamide PA 6.6	Polyamide PA 12	Thermoplastic polyurethane PU	Polypropylene PP	Polyethylene HD-PE	Polyethylene LD-PE	Polystyrene PS	Nitrile butadiene rubber NBR
Exhaust gases containing carbon dioxide	all	60									
Exhaust gases, containing SO_2	low	60									
Acetaldehyde	40 %	20	✖	✖							20 °C
Acetone	100 %	20				✖		✖	✖		✖
Acrylic acid	100 %	> 30	✖	✖	✖						✖
Alums, aqueous	diluted	40									20 °C
Allyl alcohol	96 %	20	✖	✖					20 %		
Aluminium chloride, aqueous	diluted	40									20 °C
Aluminium sulphate, aqueous	diluted	40									20 °C
Formic acid, aqueous	10 %	20	✖	✖							
Ammonia, aqueous	saturated	20	20 %	20 %	20 %					25 %	
Ammonium chloride, aqueous	saturated	60				3 % ✖					20 °C
Ammonium nitrate, aqueous	diluted	40									20 °C
Ammonium sulphate, aqueous	diluted	40									✖
Aniline, pure	100 %	20	✖	✖	✖					✖	
Aniline hydrochloride, aqueous	saturated							✖	✖		
Benzaldehyde, aqueous	saturated	20	pure ✖	pure ✖	pure ✖					✖	✖
Benzine	100 %	20					✖		✖	✖	
Benzoic acid, aqueous	all	40	20 % ✖	20 % ✖							✖
Benzole	100 %	20					✖	✖	✖	✖	✖
Bleaching liquor	12.5 Cl	20	✖	✖	✖	3 % ✖					✖
Drilling oil	all	20	✖	✖	✖		✖	✖	✖	✖	✖
Chrome alum, aqueous	diluted	40									20 °C
Cyclohexanol	–	20									
Diesel fuel		85				20 °C	20 °C	20 °C	20 °C		
Ferric chloride, aqueous, neutral	10 %	20									
Glacial acetic acid	100 %	20									✖
Acetic acid	10 %	20	✖	✖		3 % ✖				✖	
Ethyl alcohol, aqueous	10 %	20	40 vol %	40 vol %	40 vol %						
Ethylene chloride	100 %	20					✖	✖	✖		✖
Ethylene oxide	100 %	20					✖				
Ethyl ether	100 %	20					✖				✖
Potassium ferrocyanide, aqueous	saturated	60									
Fluorine	50 %	40	pure ✖	pure ✖	pure ✖	✖	✖	✖			
Formaldehyde, aqueous	diluted	40	pure	pure	pure ✖		40 %	40 %	40 %	30 %	20 °C ✖
Glucose, aqueous	all	50									
Urea, aqueous	to 10 %	40	20 %	20 %	20 %						
Flame-retardant hydraulic fluid		80									
Hydraulic oils H and HL (DIN 51524)		100									
Hydroxylamine sulphate, aqueous	to 12 %	30									
Caustic potash, aqueous	50 %	20									
Potassium bromide, aqueous	all	20	10 %	10 %	10 %						
Potassium chloride, aqueous	10 %	20									
Potassium dichromate, aqueous	40 %	20	5 % ✖	5 % ✖	5 % ✖						
Potassium nitrate, aqueous	all	20	10 %	10 %	10 %						
Potassium permanganate, aqueous	saturated	20									
Hydrosilicofluoric acid, aqueous	to 30%	20	✖	✖							

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Carbon dioxide, dry	100%	60					⛒	⛒	⛒	50 °C ⛒	20 °C ⛒
Carbonic acid	100%	60	⛒	⛒	⛒						20 °C ⛒
Cresylic acid, aqueous	to 90%	20	pure ✖	pure ✖			⛒	⛒	✖	✖	✖
Coolant DIN 53521		120	✖	✖							
Copper chloride, aqueous	saturated	20					⛒	⛒	⛒		⛒
Copper sulphate, aqueous	saturated	60					⛒	⛒	⛒		20 °C ⛒
Magnesium carbonate, aqueous	saturated	100					⛒			50 °C ⛒	
Magnesium chloride, aqueous	saturated	20	10% ⛒	10% ⛒	10% ⛒		⛒	⛒	⛒	⛒	⛒
Methyl alcohol	100%	20	⛒	⛒	⛒		40 °C ⛒	⛒	⛒	⛒	⛒
Methylene chloride	100%	20	✖	✖	✖		✖	✖	✖		
Lactic acid, aqueous	to 90%	20	10% ⛒	10% ⛒	10% ⛒	3% ✖	⛒	⛒	⛒	80% ⛒	⛒
Mineral oil			⛒	⛒	⛒		20 °C ⛒	20 °C ⛒	20 °C ⛒		
Sodium chlorate, aqueous	saturated	20	10% ✖	10% ✖	10% ✖		⛒	⛒	⛒		
Sodium hydroxide, aqueous	10%	20	⛒	⛒	⛒	3% ✖	⛒	⛒	⛒	⛒	
Nickel chloride, aqueous	saturated	20	10% ✖	10% ✖	10% ✖		⛒			⛒	⛒
Nickel sulphate, aqueous	saturated	20	10 % ✖	10% ✖	10% ✖		⛒	⛒	⛒		⛒
Nitroglycerin	diluted	20						✖	✖		
Oil and grease		20	⛒	⛒	⛒		✖				
Oleic acid	–	20	⛒	⛒	⛒		⛒	⛒	⛒	⛒	✖
Oxalic acid	all	20	10% ✖	10% ✖	10% ✖	3% ✖	⛒	⛒	⛒	⛒	✖
Ozone	pure		✖	✖	✖		✖	✖	✖		
Petroleum	100%	80	⛒	⛒	⛒		20 °C ⛒	20 °C ⛒	20 °C ✖	✖	
Phosgene, gaseous	100%	20					✖	✖	✖		
Phosphoric acid, aqueous	diluted	20	10% ✖	10% ✖	10% ✖	3% ✖	⛒	⛒	⛒	86% ⛒	✖
Phosphorus pentoxide	100%	20					⛒				
Mercury	pure	20	⛒	⛒	⛒		⛒	⛒	⛒	⛒	⛒
Nitric acid, aqueous	50%	20	✖	✖	✖	3% ✖	✖	✖	✖	30% ⛒	✖
Hydrochloric acid, aqueous	30%	20	20% ✖	20% ✖	20% ✖	3% ✖	⛒	⛒	⛒	15% ⛒	✖
Lubricating grease, ester oil base		110	✖	✖							
Polyphenyl ester base		110	⛒	⛒	⛒						
Lubricating grease, silicone oil base		110	⛒	⛒	⛒						
Carbon disulphide	100%	20	⛒	⛒	⛒		⛒	✖	✖	✖	✖
Sodium sulfide, aqueous	diluted	40					⛒	⛒	⛒		
Sulphuric acid, aqueous	10%	20	✖	✖	✖	3% ✖	50% ⛒	50% ⛒	50% ⛒	⛒	✖
Sea water		40	⛒	⛒	⛒	20 °C ⛒	⛒	⛒	⛒	⛒	20 °C ⛒
Soap solution, aqueous	all	20	diluted ⛒	diluted ⛒	diluted ⛒	⛒	⛒	⛒		⛒	
Carbon tetrachloride	100%	20	⛒	⛒	⛒		✖	✖	✖	✖	
Toluene	100%	20	⛒	⛒	⛒	✖		✖	✖	✖	✖
Trichloroethylene	100%	20	✖	✖	✖		✖	✖	✖		
Vinyl acetate	100%	20					⛒				
Hydrogen	100%	60	20 °C ⛒	20 °C ⛒	20 °C ⛒		⛒	⛒	⛒		20 °C ⛒
Xylene	100%	20	⛒	⛒	⛒		✖	✖	✖	✖	✖
Zinc chloride, aqueous	diluted	60	10% ✖	10% ✖			⛒	⛒	⛒	50 °C ⛒	20 °C ⛒
Zinc sulphate, aqueous	diluted	60					⛒	⛒	⛒		20 °C ⛒
Zinc chloride, aqueous	diluted	40					⛒	⛒	⛒	✖	20 °C ⛒
Citric acid	to 10%	40	20 °C ⛒	20 °C ⛒	20 °C ⛒	3% ✖	⛒	⛒	⛒	⛒	20 °C ⛒

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