

# Chemical Resistance

Factors like temperature, concentration of the driving forces, duration and mechanical load are important criterions for the examinations of chemical resistance. In the following table, you can see the materials resistance to different chemicals.\*

AGENTS, CONCENTRATION: WEIGHT-%	MATERIAL	ABS	Acetal (copolymer)	Acetal (homopolymer)	Noryl®	Nylon 6	PBT	PEEK	PET	Polycarbonate	Polyethylene	Polypropylene (homopolymer)	PPS	PPSU (Radel® R)	PSU (polysulfone)	PTFE	PVDF	Ultem®	Vespel® SP-1
		Acetamide 50%	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Acetic acid, aqueous solution 5%	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Acetic acid, aqueous solution 10%	Resistant	Resistant	Limited Resistance	Resistant	Not Resistant	Limited Resistance	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Acetic acid, concentrated	Not Resistant	Limited Resistance	Not Resistant	Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Acetone	Not Resistant	Resistant	Resistant	Not Resistant	Limited Resistance	Not Resistant	Resistant	Resistant	Not Resistant	Not Resistant	Limited Resistance	Resistant	Resistant	Not Resistant	Not Resistant	Resistant	Limited Resistance	Resistant	Resistant
Ammonia solution 10%	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Not Resistant
Anone	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant
Benzene	Not Resistant	Resistant	Resistant	Not Resistant	Resistant	Limited Resistance	Resistant	Limited Resistance	Resistant	Not Resistant	Limited Resistance	Limited Resistance	Limited Resistance	Limited Resistance	Limited Resistance	Not Resistant	Resistant	Resistant	Resistant
Benzine	Limited Resistance	Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Limited Resistance	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Bitumen	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Not Resistant	Limited Resistance	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Boric acid, aqueous solution 10%	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance
Butyl acetate	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Limited Resistance	Limited Resistance	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant
Calcium chloride, solution 10%	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Carbon trachloride	Not Resistant	Resistant	Limited Resistance	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Not Resistant	Not Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant
Chlorbenzene	Not Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Not Resistant	Not Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Chloroform	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Not Resistant	Limited Resistance	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance
Citric acid, aqueous solution 10%	Resistant	Limited Resistance	Not Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Clophene A60, 50%	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Cupric sulphate 10%	Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Cyclohexane	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Cyclohexanone	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant
Decalin	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Diesel Oil	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Dimethyl formamide	Not Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant
Diocetyl phthalate	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant

= Resistant
  = Limited Resistance
  = Not Resistant
 \* Resistance also dependent upon concentration, time, and temperature

# Chemical Resistance (continued)

AGENTS, CONCENTRATION: WEIGHT-%	MATERIAL																	
	ABS	Acetal (copolymer)	Acetal (homopolymer)	Noryl®	Nylon 6	PBT	PEEK	PET	Polycarbonate	Polyethylene	Polypropylene (homopolymer)	PPS	PPSU (Radel® R)	PSU (polysulfone)	PTFE	PVDF	Ultem®	Vespel® SP-1
Dioxane		●	■	●	■	●		●	▲	●	■	■			■	■	■	
Edible fats, Edible oils			■	■	■				■	■	■	■			■	■	■	
Ethanol 96%	■	■	■	■	■	■	■	■	●	■	■	■	■	■	■	■	■	
Ethyl acetate		●	■	■	■	●		●	▲	■	■			▲	■	■	■	■
Ethyl ether		■	■		■	■		■	▲	■	■		■	■	■	■	■	
Ethylene chloride	▲	▲	▲		■	▲		▲	▲	●	■				■	■	■	●
Formaldehyde, aqueous solution 30%	■	■	▲	■	■		■		■	■	■	■			■	■	■	
Formamide			●		■					●					■	■	■	
Formic acid, aqueous solution 10%	■	■	▲	■	▲	■	■	■	■	■	■	■			■	■	▲	●
Freon, Frigen, liquid	●		■	■	■	■	▲	■	▲	●	▲	■		■	■		■	
Fruit juices	■	■			■	■		■	▲	■	■					■	■	●
Glycerine	■	■	■	■	■	■		■	●	■	■			■	■	■	■	■
Glykol	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■
Glystantin, aqueous solution 40%		■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	
Heating oil	■	■	■	■	■	■		■	●	■	●	■			■	■		
Heptane, Hexane	■	■	■	■	■	■	■	■	■	▲	■	■		■	■		■	■
Hydrochloric acid, aqueous solution 2%	■	▲	▲	■	▲	■	■	■	■	■	■	●	■	■	■	■	■	
Hydrochloric acid, aqueous solution 36%	■	▲	■		▲	▲	■	▲	■	■	■	■	●		■	■	●	▲
Hydrofluoric acid, 40%	●	▲	▲	■	▲	▲		▲	●	■	■		●	■				
Hydrogen peroxide, aqueous solution 0.5%	■	●	■		▲	■		■		■	■	■	■	■	■	■	■	■
Hydrogen peroxide, aqueous solution 30%	■	▲	■		▲	▲		▲		■	■	■	●	■	■	■	●	▲
Hydrogen sulphide saturated	▲		▲	■	■		■		■	■	■				■			
Ink	■				■	■		■	■	■	■				■	■		
Iodine solution, alcohol solution	■	●	■		▲				■	●	■			■				■
Iso-octane	■		■	■	■				■	■	■	■	■	■	■	■	■	
Isopropanol	●	■	■	■	■	■		■	●	■	■	■	■	●	■	■	■	
Lactic acid, aqueous solution 10%	■	■	●	■	■		■		■	■	■	■			■	■	■	
Lactic acid, aqueous solution 90%	▲	■	▲	▲	▲				■	■	■	■			■	■	■	
Linseed oil	■	■	■	■	■	■		■	■	■	■	■			■	■	■	
Methanol	●	■	■	■	■	■		■	▲	■	■	■	●	■	■	■	■	

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AGENTS, CONCENTRATION: WEIGHT-%	MATERIAL																	
	ABS	Acetal (copolymer)	Acetal (homopolymer)	Noryl®	Nylon 6	PBT	PEEK	PET	Polycarbonate	Polyethylene	Polypropylene (homopolymer)	PPS	PPSU (Radel® R)	PSU (polysulfone)	PTFE	PVDF	Ultem®	Vespel® SP-1
Methyl ethyl ketone	▲	●	■	▲	■	■	■	■	▲	■	■	■	●	▲	■	●	■	
Methylene chloride	▲	●	●		●	▲		▲	▲	●	▲	●	▲	▲	■	■		
Milk	■	■	■	■	■				■	■	■				■	■		
Nitric acid, aqueous solution 2%	▲	▲	■		▲	▲	▲	▲	■	■	■	■	■	■	■	■	■	■
Nitrobenzene	▲	●	●		●				▲	■	■	■	■		■			
Oxalic acid, aqueous solution 10%	■	▲	●	■	●		■		■	■	■			■	■	■		●
Ozone		▲	▲		▲				▲	●					■	■		
Paraffin oil	■	■	■	■	■	■		■	■	■	■				■	■	■	
Perchloroethylene	●	■	■		●	●		●	●	▲	▲	●		▲	■	■		
Petroleum	●	■	■	■	■	■		■	▲	■	■	■			■	■		
Phenol, aqueous solution	●	▲	▲		▲	▲		▲	▲	■	■	●			■	■		■
Phosphoric acid, aqueous solution 10%	■	●	▲	■	▲		■	■	■		■	■		■	■	■		▲
Phosphoric acid, concentrated	■				▲	■	■	■	■	■	■	■		■	■	■		
Potassium dichromate, aqueous solution 10%	■	■	●	■	■	■		■	■	■	■				■	■		
Potassium lye, aqueous 10%	■	■	▲	■	■	▲		▲	▲	■	■	■			■	●		
Potassium lye, aqueous 50%	■	■	▲	■	■	▲	■	▲	▲	■	■	■			■	▲		
Potassium permanganate aqueous solution 1%	■	●	■		▲	■	■	■	■	●	■			■			■	■
Propanol	■	■	■	■	■			■	■	■	■				■	■		
Pyridine	▲	■	●		■				▲	●	●	●			■	■	▲	
Pyridine 3 solution, aqueous solution		▲			■	■		■						■				
Salicylic acid	■		●		■										■	■		■
Silicone oils	■	■	■	■	■	■		■	■	■	■				■	■		
Soap solution, aqueous solution	■	■	■		■	■		■	■	■	■	■	■	■				●
Soda lye, aqueous 5%		■	▲	■	■			▲	■	■	■	■		■	■	■		
Soda lye, aqueous 50%	■	■	▲	■	■	▲	■	▲	▲	■	■	■			■	■	▲	
Soda solution, aqueous solution 10%		■	■		■			■	■	■	■			■	■	■		●
Sodium bisulphite, aqueous solution 10%		▲	■		■	▲	■	▲	■	■	■			■	■	■	■	■
Sodium carbonate, aqueous solution 10%	■	●	■		■	■	■	■	■	■	■			■			■	●
Sodium chloride, aqueous solution 10%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Sodium nitrate, aqueous solution 10%	■	■	■		■	■		■	■	■	■	■	■	■	■	■		

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# Chemical Resistance *(continued)*

AGENTS, CONCENTRATION: WEIGHT-%	MATERIAL																	
	ABS	Acetal (copolymer)	Acetal (homopolymer)	Noryl®	Nylon 6	PBT	PEEK	PET	Polycarbonate	Polyethylene	Polypropylene (homopolymer)	PPS	PPSU (Radel® R)	PSU (polysulfone)	PTFE	PVDF	Ultem®	Vespel® SP-1
Sodium thiosulphate 10%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Styrene	■	■	■	▲	■	■	■	■	▲	●	●	■	■	■	■	■	■	■
Sulphur dioxide	▲	■	■	■	■	■	■	■	▲	●	■	■	■	■	■	■	■	■
Sulphuric acid, aqueous solution 2%	■	▲	■	■	▲	■	■	■	■	■	■	■	■	■	■	■	■	■
Sulphuric acid, concentrated 98%	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	■	■	■	▲	■	●	■	▲
Tar	■	■	■	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■
Tartaric acid	■	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Tetrahydrofurane	▲	●	▲	■	■	▲	■	▲	▲	●	●	■	■	■	■	■	■	■
Tetralin	▲	■	■	■	■	■	■	■	▲	●	▲	■	■	■	■	■	■	■
Toluene	▲	■	■	■	■	●	■	●	▲	●	■	●	●	▲	■	■	■	■
Transformer oil	■	■	■	■	■	■	■	■	■	●	■	■	■	■	■	■	■	■
Trichlorethylene	▲	▲	▲	▲	●	▲	■	▲	▲	▲	●	●	■	▲	■	■	■	■
Triethanolamine	■	■	▲	■	■	■	■	■	▲	■	■	●	■	■	■	■	■	■
Trilon B, aqueous solution 10%	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Urea, aqueous solution	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Vaseline	■	■	■	■	■	■	■	■	■	●	■	■	■	■	■	■	■	■
Water, cold	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Water, warm	■	●	▲	■	●	▲	■	▲	●	■	■	■	●	●	■	■	▲	■
Wax, molten	■	■	■	■	■	■	■	■	■	●	●	■	■	■	■	■	■	■
Wine, Brandy	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Xylene	▲	■	■	▲	■	●	■	●	▲	▲	▲	■	■	▲	■	■	■	■
Zinc chloride, aqueous solution 10%	■	▲	■	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■

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\*These details correspond to the present state of our knowledge and are meant to provide information about our products and their applications. They do not mean that the chemical resistance of products or their suitability for a particular purpose is guaranteed in a legally binding way. Any existing commercial proprietary rights are to be taken into account. We guarantee perfect quality within the scope of our general terms and conditions. For specific applications it is recommended to establish suitability first. Standard testing is performed in normal climatic conditions 23/50 according to DIN 50 014. All statements, technical information and recommendations contained in this publication are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Curbell Plastics, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of specific products in any given application.