

Perspex® Cast Chemical Resistance

Technical Data Sheet

Chemical Resistance Values

The table below shows the chemical resistance of Perspex® cast acrylic sheet to a variety of chemicals. Values quoted are the results of tests on representative samples and do not constitute a specification.

The following symbols have been used:

S = Satisfactory (no apparent effect apart from possible staining)

A = Some attack evident (swelling or slight crazing)

U = Unsatisfactory (the sample has dissolved, swollen, decomposed, etc.)

Chemical	Concentration	Resistance	Exposure Time	Notes
Acetic acid	10%	S	5 years	-
	100%	U	1 day	Badly swollen
	Glacial	U	3 days	Dissolved
Acetone	100%	U	1 day	Dissolved
Alcohol, n-butyl	-	U	1 year	Crazing and disintegration
Alcohol, ethyl	10%	A	1 year	Slight attack
	50%	A	1 year	Slight attack
	100%	U	1 year	Slight swelling and softening
Alcohol, isopropyl	10%	A	1 year	Crazing
	50%	A	1 year	Crazing
	100%	A	1 year	Attacked
Alcohol, methyl	10%	A	1 year	Slight attack
	50%	A	168 days	Swollen
	100%	U	168 days	Swollen: weight increase
Ammonia	0.880 sol.	S	1 year	-
Amyl acetate	-	U	28 days	Dissolved
Aniline	-	U	7 days	Dissolved
Aviation fuel	100-octane	A	168 days	Slight crazing
Benzaldehyde	-	U	7 days	Dissolved
Benzene	-	U	1 day	Dissolved
Butyl acetate	-	U	10 days	Dissolved
Calcium chloride	Saturated sol.	S	3 years	Slight attack
Carbon tetrachloride	-	U	84 days	Dissolving
Chloroform	-	U	1 day	Dissolved
Chlorine	2% in water	A	5 years	Surface crazing and attack
Chromic acid	10%	S	5 years	Stained
	Saturated sol.	U	1 year	Dissolving
Citric acid	Saturated sol.	S	5 years	-
Dibutyl phthalate	-	A	2 years	Surface crazed
Diocetyl phthalate	-	A	2 years	Slight attack
Dibutyl sebacate	-	A	2 years	Slight attack
Diethyl ether	-	U	168 days	Swollen & soft
Ethylene glycol	-	S	5 years	-
Ethylene dichloride	-	U	1 day	Dissolved
Ethyl acetate	-	U	3 days	Dissolved
Epichlorhydrin	-	U	1 day	Dissolved
Formaldehyde	40%	S	5 years	-
Formic acid	10%	S	5 years	-
	90%	U	7 days	-
Glycerol (glycerine)	-	S	5 years	-
Hexane	-	S	168 days	Slight crazing
Hydrochloric acid	10%	S	168 days	Slight crazing
	Concentrated	S	168 days	Slight crazing
Hydrocyanic acid	-	U	1 day	Dissolved
Hydrofluoric acid	Concentrated	U	1 day	Swollen & soft
Hydrogen peroxide	10 vol.	S	1 year	-
	90%	U	1 day	-
Mercury	-	S	2 years	-



Methylene chloride	-	U	1 day	Dissolved
Methyl salicylate	-	U	7 days	Dissolved
Nitric acid	10%	S	1 year	-
	Concentrated	U	1 day	Swollen
Oil, transformer	-	S	5 years	Staining
Oil, diesel	-	S	1 year	Hazing
Oil, olive	-	S	5 years	Slight crazing
Oil, paraffin (medicinal)	-	S	5 years	-
Oil, silicone	-	A	1 year	Swollen
Oxalic acid	Saturated sol.	S	5 years	-
Perchloroethylene	-	U	5 years	Severe crazing
Phenol	Saturated sol.	U	7 days	Dissolved
Phosphoric acid	10%	S	5 years	-
	Concentrated	U	7 days	Severe crazing
Potassium dichromate	10%	S	5 years	Slight staining
Potassium hydroxide	Saturated sol.	S	168 days	-
Potassium permanganate	N/10 sol.	S	5 years	Severe staining
Sodium carbonate	Saturated sol.	S	5 years	-
Sodium chlorate	Saturated sol.	S	5 years	-
Sodium chloride	Saturated sol.	S	5 years	-
Sodium hydroxide	Saturated sol.	S	5 years	-
Sodium hypochlorite	10% chlorine sol.	S	5 years	-
Sulphuric acid	10%	S	5 years	-
	30%	S	1 year	Slight edge attack
	Concentrated	U	1 day	Swollen
Tartaric acid	Saturated sol.	S	5 years	-
Toluene	-	U	7 days	Dissolved
Trichloroethane	-	U	1 day	Dissolved
Trichloroethylene	-	U	1 day	Dissolved
Tricresyl phosphate	-	U	2 years	Attacked / crazed
Water	-	S	5 years	-
White spirit	-	S	5 years	Slight crazing
Xylene	-	U	7 days	Dissolved

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Perspex® Cast Acrylic Sheet

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