

## Lexan\* Polycarbonate Chemical Compatibility Overview

This overview shows the chemical resistance of Lexan polycarbonate sheet. Chemical compatibility of thermoplastics e.g. Lexan is dependent on contact time, temperature and stress (external stress to which the application is subjected).

Chemical exposure can result in discoloration, softening, swelling, crazing, cracking or loss of properties of the thermoplastic.

The chemicals listed have been evaluated for Lexan according a very stringent internal method. This test incorporates exposure to the chemical under defined conditions including temperature (20 and 80 C) and stress (0.5 and 1% strain) for a time period of seven days. The results are listed in the overview using symbols (+ or 0 or -), indicating:

-	<b>Poor; Not recommended - will result in failure or severe degradation.</b>
0	<b>Fair; Found marginal-only for short exposures at lower temperatures or when loss of properties is not critical.</b>
+	<b>Good; Found unaffected in its performance when exposed with regards to time, temperature and stress according the internal method.</b>

This information should be used as indicative only. The true chemical compatibility can only be determined under conditions as in the final application. Please contact your local representative in case additional information is required.

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<b>Acid, Mineral</b>		Nonyl alcohol	-
Boric acid	+	Octyl alcohol	+
Hydrogen chloride 20%	+	Oxydiethanol 2.2	+
Hydrogen chloride 25%	-	Phenethyl alcohol	-
Hydrogen fluoride 25%	+	Polyalkylene glycol	-
Nitric acid 70%	-	Polyethylene glycol	+
Perchloric acid	-	Propylene glycol	-
Phosphorus pentoxide dry	+	Sorbitol	+
Phosphoric acid 1%	+	Thiodiglycol 5%	-
Phosphoric acid 10%	-	Triethylene glycol	+
Phosphorus pentachloride	+	Tripropylene glycol	-
Sulfuric acid 50%	+	<b>Aldehyde</b>	
Sulfuric acid 70%	-	Acetaldehyde	-
Sulfurous acid 5%	-	Butyraldehyde	-
<b>Acid, Organic</b>		Formaldehyde solvent 37%	+
Acetic anhydride	-	Formalin	+
Formic acid concentrate	-	Propionaldehyde	-
Gallic acid	+	<b>Amide</b>	
Maleic acid	+	Dimethylformamide	-
Mercapto acetic acid	-	<b>Amine</b>	
Muristic acid 20%	+	Aniline	-
Muristic acid 25%	-	Diphenylamine	-
Oleic acid	+	Methylaniline N	-
Palmitic acid	+	Methylene dianiline	-
Phenol sulfonic acid	-	Phenylhydrazine	-
Phenoxyacetic acid	+	Pyridine	-
Phthalic anhydride	+	Triethanolamine	+
Salicylate acid	+	Hydroxylamine	+
Tannic acid	+	<b>Base</b>	
Tannic acid 20%	-	Aluminium hydroxide powder	+
Thiodiacetic acid	+	Ammonia concentrate	-
Trichloroacetic acid 10%	-	Ammonium hydroxide 0.13%	-
5% Sulfamine acid	0	Calcium hydroxide	-
<b>Alcohol</b>		Potassium hydroxide 10%	-
Allyl alcohol	-	Sodium hydroxide dry	+
Amyl alcohol	-	Sodium hydroxide 10%	-
Butoxyethanol	-	Sodium thotalamate	+
Chlorethanol 2	-	<b>Ester</b>	
Decyl alcohol	-	Benzyl benzoate	-
Dodecyl alcohol	-	Butyl cellosolve acetate	-
Ethanol	-	Butyl stearate	-
Ethyl glycol 100%	-	Cello acetobutyrate	-
Ethyl glycol 60%	+	Cellulose acetate	-
Furfuryl alcohol	-	Cellulose propionate	-
Glycerine	+		
Hepthyl alcohol	-		
Isobutanol	0		

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Dibutyl phthalate	-	<b>Halogenated HC</b>	
Didecyl carbonate	-	Acetylene dibromo	-
Diisodecyl phthalate	-	Acetylene tetrabromide	-
Diisononyl phthalate	+	Bromochloromethane	-
Dioctyl phthalate	-	Carbon tetrachloride	-
Dioctyl sebacate	-	Chlorethanol 2	-
Ditridecyl carbonate	-	Chlorobenzene	-
Ditridecyl phthalate	-	Chlorobutane	-
Ethyl bromoacetate	+	Chloroform	-
Ethyl butyrate	-	Dibromomethane	-
Ethyl cellusolve 5%	-	Dichloroethane	-
Ethyl chloracetate	-	Dichlorohydroxybenzene	+
Ethyl cyanoacetate	-	Dichloromethane	-
Ethyl lactate	-	Ethyl bromoacetate	+
Ethyl salicylate	-		
Isopropyl myristate	-	<b>Ketone</b>	
Methyl acetate	+	Methyl ethyl ketone	-
Methyl salicylate	-		
Methylbenzoate	-	<b>Metal &amp; Metal Oxide</b>	
Triacetine	-	Aluminium oxide	+
Tributoxyethyl phosphate	-	Arsenic trioxide	-
Tributyl cello phosphate	-	Calcium oxide paste	-
2 Dodecyl phenyl carbonate	+	Cuprous oxide	+
		Mercury metallic	-
<b>Ether</b>			
Ether	-	<b>Phenol</b>	
Ethyl cellosolve 5%	-	Allyl 4methoxyphenol	-
Methyl cellosolve	-	Cresol	-
Polyalkylene glycol	-	P-Phenylphenol	-
Polyethylene glycol	+	Pentachlorophenol	-
Polyethylene sulfide	-	Phenol sulfonic acid	-
Propylene oxide	-	Phenol 5%	-
		Phenoxyacetic	+
<b>Gaseous</b>			
Ammonia concentrate	-	<b>Salt, Inorganic</b>	
Bromine	-	Aluminium ammonium sulfate	-
Chloracetophenon	-	Aluminium chloride	-
Chlorine	-	Aluminium fluoride	+
Iodine	-	Aluminium potassium sulfate	-
Isobutane	-	Aluminium sodium sulfate	+
Methane	-	Ammonium bicarbonate	+
Oxygen	+	Ammonium bromide	+
Ozone 2%	-	Ammonium carbonate	-
Propylene	+	Ammonium dichromate	+
Sulfur dioxide	-	Ammonium persulfate	+
Sulphur hexafluoride	-	Arsenic trioxide	-

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Barium carbonate	+	Sodium ferricyanide	+
Barium chloride	+	Sodium fluoride	+
Barium sulfate	+	Sodium hypochlorite 6%	+
Calcium carbonate paste	-	Sodium hypochlorite 15%	-
Calcium chloride	+	Sodium nitrate 10%	-
Calcium sulfate	+	Sodium perborate	+
Cesium bromide	+	Sodium phosphate	+
Copper (II) chloride 5%	+	Sodium silicate	+
Iron (II) chloride	-	Sodium sulfide	-
Iron (III) ammonium sulfate	+	Sodium sulfite	+
Iron (III) chloride saturated	+	Strontium bromide	+
Iron (III) nitrate	-	Tin (II) chloride	+
Iron (III) sulfate	+	Tin (IV) chloride	+
Lithium bromide	+	Titanium tetrachloride	+
Lithium hydride powder	+	Trisodium phosphate 5%	-
Magnesium bromide	+	Zinc bromide	+
Magnesium chloride	+	Zinc carbonate	+
Magnesium nitrate	+	Zinc chloride	-
Mercury (I) nitrate	+	Zinc oxide	-
Mercury (II) chloride	-	Zinc sulfate	+
Mono ammonium phosphate	+	<b>Salt, Organic</b>	
Nickel nitrate	+	Aluminium acetate	+
Potassium bicarbonate dry	+	Ammonium acetate	-
Potassium bisulfate	+	Ammonium oxalate	+
Potassium bromate	+	Aniline sulfate	+
Potassium bromide	+	Potassium acetate 30%	-
Potassium carbonate	+	Quinine sulfate	-
Potassium chlorate	+	Sodium acetate 30%	-
Potassium chloride saturated	-	Valine bromide dl	+
Potassium chloride 15%	+		
Potassium chormium sulfate	-		
Potassium cyanide powder	+		
Potassium dichromate	+		
Potassium iodide	+		
Potassium nitrate	+		
Potassium permanganate	-		
Potassium persulfate	+		
Potassium sulfate	+		
Silver chloride saturated	-		
Silver nitrate	+		
Sodium bicarbonate saturated	0		
Sodium bicarbonate 13%	-		
Sodium bisulfate	+		
Sodium bromate	+		
Sodium bromide	+		
Sodium carbonate	+		
Sodium carbonate solvent	-		
Sodium chlorate	+		
Sodium etherlaurylsulphate	0		

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