

Lexan® Polycarbonate Chemical Compatibility Overview

Introduction:

This overview shows the chemical resistancy 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 GE-test 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 -) which are explained below.

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.

Acid, Mineral		Aldehyde		- Tributoxyethyl phosphate	-
- Borax acid	+	- Acetaldehyde	-	- Tributyl cello phosphate	-
- Hydrogen chloride 20%	+	- Butyraldehyde	-	- 2 Dodecyl phenyl carbonate	+
- Hydrogen chloride 25%	-	- Formaldehyde solvent 37%	+	Ether	
- Hydrogen fluoride 25%	+	- Formalin	+	- Ether	-
- Nitric acid 70%	-	- Propionaldehyde	-	- Ethyl cellosolve 5%	-
- Perchloric acid	-	Amide		- Methyl cellosolve	-
- Phosphorus pentoxide dry	+	- Dimethylformamide	-	- Polyalkylene glycol	-
- Phosphoric acid 1%	+	Amine		- Polyethylene glycol	+
- Phosphoric acid 10%	-	- Aniline	-	- Polyethylene sulfide	-
- Phosphorus pentachloride	+	- Diphenylamine	-	- Propylene oxide	-
- Sulfuric acid 50%	+	- Methylaniline N	-	Gaseous	
- Sulfuric acid 70%	-	- Methylene dianiline	-	- Ammonia concentrate	-
- Sulfurous acid 5%	-	- Phenylhydrazine	-	- Bromine	-
Acid, Organic		- Pyridine	-	- Chloracetophenon	-
- Acetic anhydride	-	- Triethanolamine	+	- Chlorine	-
- Formic acid concentrate	-	- Hydroxylamine	+	- Iodine	-
- Gallic acid	+	Base		- Isobutane	-
- Maleic acid	+	- Aluminium hydroxide powder	+	- Methane	-
- Mercapto acetic acid	-	- Ammonia concentrate	-	- Oxygen	+
- Muristic acid 20%	+	- Ammonium hydroxide 0.13%	-	- Ozone 2%	-
- Muristic acid 25%	-	- Calcium hydroxide	-	- Propylene	+
- Oleic acid	+	- Potassium hydroxide 10%	-	- Sulfur dioxide	-
- Palmitic acid	+	- Sodium hydroxide dry	+	- Sulphur hexafluoride	-
- Phenol sulfonic acid	-	- Sodium hydroxide 10%	-	Halogenated HC	
- Phenoxyacetic acid	+	- Sodium thotalamate	+	- Acethylene dibromo	-
- Phthalic anhydride	+	Ester		- Acethylene tetrabromide	-
- Salicylate acid	+	- Benzyl benzoate	-	- Bromochloromethane	-
- Tannic acid	+	- Butyl cellosolve acetate	-	- Carbon tetrachloride	-
- Tannic acid 20%	-	- Butyl stearate	-	- Chlorethanol 2	-
- Thiodiacetic acid	+	- Cello acetobutyrate	-	- Chlorobenzene	-
- Trichlor acetic acid 10%	-	- Cellulose acetate	-	- Chlorobutane	-
- 5% Sulfamine acid	0	- Cellulose propionate	-	- Chloroform	-
Alcohol		- Dibutyl phthalate	-	- Dibromomethane	-
- Allyl alcohol	-	- Didecyl carbonate	-	- Dichloroethane	-
- Amyl alcohol	-	- Diisodecyl phthalate	-	- Dichlorohydroxybenzene	+
- Butoxyethanol	-	- Diisononyl phthalate	+	- Dichloromethane	-
- Chlorethanol 2	-	- Dioctyl phthalate	-	- Ethyl bromoacetate	+
- Decyl alcohol	-	- Dioctyl sebacate	-	Ketone	
- Dodecyl alcohol	-	- Ditridecyl carbonate	-	- Methyl ethyl ketone	-
- Ethanol	-	- Ditridecyl phthalate	-	Metal & Metal Oxide	
- Ethyl glycol 100%	-	- Ethyl bromoacetate	+	- Aluminium oxide	+
- Ethyl glycol 60%	+	- Ethyl butyrate	-	- Arsenic trioxide	-
- Furfuryl alcohol	-	- Ethyl cellusolve 5%	-	- Calcium oxide paste	-
- Glycerine	+	- Ethyl chloracetate	-	- Cuprous oxide	+
- Hephthyl alcohol	-	- Ethyl cyanoacetate	-	- Mercury metallic	-
- Isobutanol	0	- Ethyl lactate	-	Phenol	
- Nonyl alcohol	-	- Ethyl salicylate	-	- Allyl 4methoxyphenol	-
- Octyl alcohol	+	- Isopropyl myristate	-	- Cresol	-
- Oxidiethanol 2.2	+	- Methyl acetate	+	- P-Phenylphenol	-
- Phenethyl alcohol	-	- Methyl salicylate	-	- Pentachlorophenol	-
- Polyalkylene glycol	-	- Methylbenzoate	-		
- Polyethylene glycol	+	- Triacetine	-		
- Propylene glycol	-				
- Sorbitol	+				
- Thiodiglycol 5%	-				
- Triethylene glycol	+				
- Tripropylene glycol	-				
		- Magnesium chloride	+	- Sodium carbonate solvent	-
- Phenol sulfonic acid	-	- Magnesium nitrate	+	- Sodium chlorate	+
- Phenol 5%	-				

- Aluminium ammonium sulfate	-	- Natriumetherlaurylsulfate	0	- Sodium nitrate 10%	-
- Aluminium chloride	-	- Nickel nitrate	+	- Sodium perborate	+
- Aluminium fluoride	+	- Potassium bicarbonate dry	+	- Sodium phosphate	+
- Aluminium potassium sulfate	-	- Potassium bisulfate	+	- Sodium silicate	+
- Aluminium sodium sulfate	+	- Potassium bromate	+	- Sodium sulfide	-
- Ammonium bicarbonate	+	- Potassium bromide	+	- Sodiamsulfite	+
- Ammonium bromide	+	- Potassium carbonate	+	- Strontium bromide	+
- Ammonium carbonate	-	- Potassium chlorate	+	- Tin (II) chloride	+
- Ammonium dichromate	+	- Potassium chloride saturated	-	- Tin (IV) chloride	+
- Ammonium persulfate	+	- Potassium chloride 15%	+	- Titanium tetrachloride	+
- Arsenic trioxide	-	- Potassium chormium sulfate	-	- Trisodium phosphate 5%	-
- Barium carbonate	+	- Potassium cyanide powder	+	- Zinc bromide	+
- Barium chloride	+	- Potassium dichromate	+	- Zinc carbonate	+
- Barium sulfate	+	- Potassium iodide	+	- Zinc chloride	-
- Calcium carbonate paste	-	- Potassium nitrate	+	- Zinc oxide	-
- Calcium chloride	+	- Potassium permanganate	-	- Zinc sulfate	+
- Calcium sulfate	+	- Potassium persulfate	+		
- Cesium bromide	+	- Potassium sulfate	+	Salt, Organic	
- Copper (II) chloride 5%	+	- Silver chloride saturated	-	- Aluminium acetate	+
- Iron (II) chloride	-	- Silver nitrate	+	- Ammonium acetate	-
- Iron (III) ammonium sulfate	+	- Sodium bicarbonate saturated	0	- Ammonium oxalate	+
- Iron (III) chloride saturated	+	- Sodium bicarbonate 13%	-	- Aniline sulfate	+
- Iron (III) nitrate	-	- Sodium bisulfate	+	- Potassium acetate 30%	-
- Iron (III) sulfate	+	- Sodium bromate	+	- Quinine sulfate	-
- Lithium bromide	+	- Sodium bromide	+	- Sodium acetate 30%	-
- Lithium hydride powder	+	- Sodium carbonate	+	- Valine bromide dl	+
- Magnesium bromide	+				

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

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