Chemical Resistance GEHR PMMA



	conc. (%)	room temperature	60 °C
1,4 Dioxane	100		
2-Hydroxypropionic acid	90		
Acetic acid	100	-	-
Acetone	100	-	-
Ammonia	conc.	+	
Ammonium chloride			
Amyl alcohol		-	-
Apple juice		+	
Benzene		-	-
Bleaching solution	12,5 CI		
Boric acid	100		
Brake fluid			
Butyl acetate		-	-
Calcium chloride		+	+
Carbon disulphide	100	-	-
Carbon tetrachloride		-	1100-
Chlorine, gas	100	0	
Chlorobenzene	100		
Chloroform		-	1 -
Citric acid	10	+	+
Cresol		-	
Cyclohexanone	100	-	
Cyclohexene	100	-	- 1
Diesel fuel		+	
Diethylene oxide, THF		-	_
Ethyl acetate	100	-	- 1
Ethyl alcohol	96	+/0	_
Ethylene chloride	100		_
Food oil			
Formaldehyde, aqu	40	+	
Formic acid	10		
Frost protection agent			
Fuel, aromatic free		+	
Glycerin	100	+	
Glycol	100	+	
Heating oil	100	+	
Heptane	100	+	
Hydrochloric acid	100	+	
Hydrochloric acid	conc.	+	
Hydrofluoric acid	40	- T	
Hydrogen peroxide	10		-
Hydrogen sulphide	10	+	
Isopropyl alcohol	100	+/0	
Linseed oil	100		
		+	
Mercurochrome Methyl placed al	400	-	-
Methyl alcohol	100	-	-
Methyl ethyl ketone	100	-	-

DokNr.	Name	Erstelldatum/Geändert am	Erstellt von	Seite
PMMA_engl	Chem-Best	11.12.2007	QM	1 von 2

Chemical Resistance GEHR PMMA



Methylene chloride 100 - - Milk + - - Mineral oils, aromatic free + - - Nitric acid 10 + + - Nitrobenzene -		conc. (%)	room temperature	60 °C	
Mineral oils, aromatic free + Nitric acid 10 + + Nitrobenzene - - - Oxalic acid + - - Ozone, gas ca. 0,5 ppm + - Paraffine oil 100 + - Perschloroethylene 0 - - Petroleum ether 100 + - Petroleum, aromatic free 100 0 - Petroleum, aromatic free 100 0 - Phenol, aqu ca. 9 - - - Phosphoric acid 50 - - - Potassium hydroxide liquor 50 + - - Propyl alcohol - - - - - Pyridine -	Methylene chloride	100	-	-	
Nitric acid 10 + + Nitrobenzene - - - Oxalic acid + - - Ozone, gas ca. 0,5 ppm + - Paraffine oil 100 + - Perchloroethylene 0 - - Petroleum ether 100 + - Petroleum, aromatic free 100 0 - Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + - Premium Fuel - - - Propyl alcohol - - - Pyridine - - - Silicone oil + + + Sodium carbonate, aqu + + + Sodium chloride, aqu + + + Sodium hydroxide liquor 50 - - - Sodium hydrox	Milk		+		
Nitric acid 50 - - Nitrobenzene - - - Oxalic acid + - - Ozone, gas ca. 0,5 ppm + - Paraffine oil 100 + - Petroleum ether 100 + - Petroleum ether 100 o - Petroleum, aromatic free 100 o - Phenol, aqu ca. 9 - - - Phosphoric acid 50 -	Mineral oils, aromatic free		+		
Nitrobenzene - - Oxalic acid + - Ozone, gas ca. 0,5 ppm + Paraffine oil 100 + Petroloroethylene 0 - Petroleum ether 100 + Petroleum, aromatic free 100 0 Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + - Premium Fuel - - - Propyl alcohol - - - Pyridine - - - Silicone oil + + - Sodium carbonate, aqu + + + Sodium carbonate, aqu + + + Sodium hydroxide liquor 50 - - - Sodium hydroxide liquor 60 - - - Sodium hydroxide liquor 60 - - - <td>Nitric acid</td> <td>10</td> <td>+</td> <td colspan="2">+</td>	Nitric acid	10	+	+	
Oxalic acid + Ozone, gas ca. 0,5 ppm + Paraffine oil 100 + Petrolloroethylene 0 - Petroleum ether 100 + Petroleum, aromatic free 100 0 Phenol, aqu ca. 9 - - Phosphoric acid 50 - - - Potassium hydroxide liquor 50 + - <td>Nitric acid</td> <td>50</td> <td>-</td> <td>-</td>	Nitric acid	50	-	-	
Ozone, gas ca. 0,5 ppm + Paraffine oil 100 + Perchloroethylene 0 - Petroleum ether 100 + Petroleum, aromatic free 100 0 Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + - Premium Fuel - - - Propyl alcohol - - - Pyridine - - - Solium carbonate, aqu + + + Sodium carbonate, aqu + + + Sodium chloride, aqu + + + Sodium hydroxide liquor 50 - - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + + Sodium hitrate, aqu + + Sodium thiosulfate + - Sulphuric acid	Nitrobenzene		-	-	
Paraffine oil 100 + Perchloroethylene 0 Petroleum ether 100 + Petroleum, aromatic free 100 0 Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + + Premium Fuel - - - Propyl alcohol - - - Pyridine - - - Silicone oil + + + Sodium carbonate, aqu + + + Sodium carbonate, aqu + + + Sodium chloride, aqu + + + Sodium hydroxide liquor 60 - - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + + - Sodium hyrogen sulphite + - - Sodium thiosulfate + - -	Oxalic acid		+		
Perchloroethylene 0 Petroleum ether 100 + Petroleum, aromatic free 100 o Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + - Premium Fuel - - - Propyl alcohol - - - Pridine - + + Solium carbonate, aqu + + + Sodium carbonate, aqu + + + Sodium hydroxide liquor 60 - - Sodium hydro	Ozone, gas	ca. 0,5 ppm	+		
Petroleum ether 100 + Petroleum, aromatic free 100 o Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + Premium Fuel - - Propyl alcohol - - Pyridine - - Silicone oil + + Sodium carbonate, aqu + + Sodium carbonate, aqu + + Sodium chloride, aqu + + Sodium hydroxide liquor 60 - - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + + Sodium thiosulfate + + Sodium thiosulfate + - Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Trichloroethylene <	Paraffine oil	100	+		
Petroleum, aromatic free 100 o Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + Premium Fuel - - Propyl alcohol - - Pyridine - - Silicone oil + + Sodium carbonate, aqu + + Sodium carbonate, aqu + + Sodium chloride, aqu + + Sodium hydroxide liquor 60 - - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + + Sodium hirate, aqu + - Sodium thiosulfate + - Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Transformer oil + + + Trichloroethyle	Perchloroethylene		0		
Phenol, aqu ca. 9 - - Phosphoric acid 50 - - Potassium hydroxide liquor 50 + - Premium Fuel - - - Propyl alcohol - - - Pyridine - - - Silicone oil + + - Sodium carbonate, aqu + + + Sodium carbonate, aqu + + + Sodium chloride, aqu + + + Sodium hydroxide liquor 60 - - - Sodium hyrogen sulphite + + - - Sodium hyrogen sulphite + + - - Sodium thiosulfate + - - - Sodium thiosulfate + - - - Sulphuric acid 96 - - - - Toluene 100 - - -	Petroleum ether	100	+		
Phosphoric acid 50 - - Potassium hydroxide liquor 50 + Premium Fuel - - Propyl alcohol - - Pyridine - - Silicone oil + + Sodium carbonate, aqu + + Sodium carbonate, aqu + + Sodium carbonate, aqu + + Sodium hydroxide liquor 60 - - Sodium hydroxide liquor 60 - - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - Sodium hyrogen sulphite + - Sodium thiosulfate + - Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Trichloroethylene 100 - - Vinegar, standard 5-10 + +	Petroleum, aromatic free	100	0		
Potassium hydroxide liquor 50 + Premium Fuel - - Propyl alcohol - - Pyridine - - Silicone oil + + Sodium carbonate, aqu + + Sodium carbonate, aqu + + Sodium carbonate, aqu + + Sodium hydroxide liquor 60 - - Sodium hydroxide liquor 60 - - Sodium hydroxide liquor + + Sodium hydroxide liquor + - Sodium hydroxide liquor - - Sodium hydroxide liquor - -	Phenol, aqu	ca. 9	-	-	
Premium Fuel - - Propyl alcohol - - Pyridine - - Silicone oil + - Sodium carbonate, aqu + + Sodium carbonate, aqu + - Sodium carbonate, aqu + - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - - Sodium nitrate, aqu - - - Sodium thiosulfate + - - Sulphuric acid 96 - - - Tetrahydrofurane 100 - - - Toluene 100 - - - Trichloroethylene 100 - - - Vinegar, standard 5-10 + + +	Phosphoric acid	50	-	-	
Propyl alcohol + Silicone oil + Sodium carbonate, aqu + + Sodium chloride, aqu + + Sodium hydroxide liquor 15 + Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - - Sodium hyrogen sulphite + - - Sodium thiosulfate + - - Sulphuric acid 96 - - - Tetrahydrofurane 100 - - - Toluene 100 - - - Trichloroethylene 100 - - - Vinegar, standard 5-10 + + + Water + + + +	Potassium hydroxide liquor	50	+		
Pyridine + Silicone oil + Sodium carbonate, aqu + + Sodium chloride, aqu + + Sodium hydroxide liquor 50 - - Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - - Sodium hyrogen sulphite + - - Sodium nitrate, aqu - - - Sodium thiosulfate + - - Sulphuric acid 96 - - - Tetrahydrofurane 100 - - - Toluene 100 - - - Trichloroethylene 100 - - - Vinegar, standard 5-10 + + Water + + +	Premium Fuel		-		
Silicone oil + Sodium carbonate, aqu + Sodium chloride, aqu + Sodium hydroxide liquor 15 Sodium hyrogen sulphite + Sodium nitrate, aqu + Sodium thiosulfate + Sulphuric acid 96 Tetrahydrofurane 100 Toluene 100 Transformer oil + Trichloroethylene 100 Vinegar, standard 5-10 + + Water +	Propyl alcohol				
Sodium carbonate, aqu + + Sodium chloride, aqu + + Sodium hydroxide liquor 15 + Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - - Sodium hyrogen sulphite + - - Sodium nitrate, aqu - - - Sodium thiosulfate + - - Sulphuric acid 96 - - - Tetrahydrofurane 100 - - - Toluene 100 - - - Transformer oil + + + Trichloroethylene 100 - - - Vinegar, standard 5-10 + + + Water + + + +	Pyridine	14 14			
Sodium chloride, aqu + Sodium hydroxide liquor 15 + Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - - Sodium nitrate, aqu + - - Sodium thiosulfate + - - Sulphuric acid 96 - - - Tetrahydrofurane 100 - - - Toluene 100 - - - Trichloroethylene 100 - - - Vinegar, standard 5-10 + + + Water + + + +	Silicone oil	The Team	+		
Sodium chloride, aqu + Sodium hydroxide liquor 15 + Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - - Sodium nitrate, aqu + - - Sodium thiosulfate + - - Sulphuric acid 96 - - - Tetrahydrofurane 100 - - - Toluene 100 - - - Trichloroethylene 100 - - - Vinegar, standard 5-10 + + + Water + + + +	Sodium carbonate, aqu		+	+	
Sodium hydroxide liquor 60 - - Sodium hyrogen sulphite + - Sodium nitrate, aqu - - Sodium thiosulfate + - Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Transformer oil + + Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +			+		
Sodium hyrogen sulphite + Sodium nitrate, aqu - Sodium thiosulfate + Sulphuric acid 96 - Tetrahydrofurane 100 - Toluene 100 - Transformer oil + - Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Sodium hydroxide liquor	15	+		
Sodium nitrate, aqu + Sodium thiosulfate + Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Transformer oil + + Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Sodium hydroxide liquor	60	-	- 1	
Sodium thiosulfate + Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Transformer oil + + Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Sodium hyrogen sulphite		+		
Sulphuric acid 96 - - Tetrahydrofurane 100 - - Toluene 100 - - Transformer oil + - - Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Sodium nitrate, aqu				
Tetrahydrofurane 100 - - Toluene 100 - - Transformer oil + - - Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Sodium thiosulfate		+		
Toluene 100 - - Transformer oil + + Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Sulphuric acid	96		- 11	
Transformer oil + Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Tetrahydrofurane	100		-	
Trichloroethylene 100 - - Vinegar, standard 5-10 + + Water + + +	Toluene	100	1 -	- 1	
Vinegar, standard 5-10 + + Water + + +	Transformer oil		+		
Water + +	Trichloroethylene	100	17.4	- 1	
	Vinegar, standard	5-10	+	+	
Xylene	Water		+	+	
. 1,	Xylene		W W -	- 11	

Symbolism for the description of the chemical resistance

+ = resistant (only small changes of the weight, dimensions and properties.

According our experiences there is no permanent damage expect).

o = partly resistant (medium changes of the properties. At longer contact time there are

permanent damages recommended e.g. degradation of the macro

molecular structure).

- = non resistant (strong and permanent degradation in short contact time e.g. stress

cracking).

= not tested (no tests were done, no recommendations are possible).

The figures indicated here are approximate values. They may be affected by the temperature, operating time, concentration and stress level of the component involved, by mechanical loads, etc., and the user is not released therefore from the obligation of performing checks and trials of his own. The values indicated here have been compiled on the bases of current experiences and findings. Any legally binding guarantee of certain properties, or any suitability for a specific application cannot be inferred from the present data.

DokNr.	Name	Erstelldatum/Geändert am	Erstellt von	Seite
PMMA_engl	Chem-Best	11.12.2007	QM	2 von 2