

Guide to chemical resistance

	Material °C Concentration	PVCu			ABS		
		20	40	60	20	40	60
Acetaldehyde	technically pure	–	–	–	–	–	–
	40%, aqueous solution	0	–	–	–	–	–
Acetic Acid	50% aqueous	+	+	0	–	–	–
	technically pure, glacial	0	–	–	–	–	–
Acetic Acid Anhydride	technically pure	–	–	–	–	–	–
Acetic Acid Ethylester		–	–	–	–	–	–
Acetic Acid Isobutyl Ester	technically pure	–	–	–	–	–	–
Acetone	up tp 10% aqueous	–	–	–	0	–	–
Acetone	technically pure	–	–	–	–	–	–
Acetonitrile	100%	–	–	–	–	–	–
Acetophenone	100%	–	–	–	–	–	–
Acrylic Acid Methyl Ester	technically pure	–	–	–	–	–	–
Acrylicethyl	technically pure	–	–	–	–	–	–
Acrylonitrile	technically pure	–	–	–	–	–	–
Adipic Acid	saturated, aqueous	+	+	–	–	–	–
Allyl Alcohol	96%	0	–	–	–	–	–
Ammonia	gaseous, technically pure	+	+	+	–	–	–
Ammonium Acetate	aqueous, all	+	+	0	0	–	–
Amonium Salts, Aqueous, Inorganic	Saturated	+	+	+	–	–	–
Ammonium persulphate		+	+	0	–	–	–
Amyl Acetate	technically pure	–	–	–	–	–	–
Amyl Alcohol	technically pure	+	+	0	–	–	–
Anilie	technically pure	–	–	–	–	–	–
Antimony Trichloride	90%, aqueous	+	+	–	–	–	–
Aqua Regia	mixing ratio	+	0	–	–	–	–
Arsenic Acid	80%, aqueous	+	+	0	+	+	+
Barium Salts, Aqueous, Inorganic	saturated	+	+	+	+	–	–
Beer	usual commercial	+	–	–	+	–	–
Benzaldehyde	aqueous, saturated	–	–	–	–	–	–
Benzene	technically pure	–	–	–	–	–	–
Benzene Sulfonic Acid	technically pure	+	–	–	–	–	–
Benzine (Gasoline)	free of lead and aromatic compounds	+	+	–	–	–	–
Benzoic Acid	aqueous, all	+	+	0	+	+	–
Benzyl Alcohol	technically pure	0	–	–	–	–	–
Beryllium Salts, Aqueous, Inorganic		+	+	+	–	–	–
Borax	aqueous, all	+	+	0	+	+	–
Boric Acid	aqueous, all	+	+	0	+	+	+
Bromine Water	saturated, aqueous	+	–	–	–	–	–
Butadiene	technically pure	+	–	–	–	–	–
Butane	technically pure	+	–	–	+	–	–
Butanediol	aqueous, 10%	+	0	–	–	–	–
Butanol	technically pure	+	+	0	–	–	–
Butyl Acetate	technically pure	–	–	–	–	–	–
Butyl Phenol, P-Tertiary	technically pure	0	–	–	–	–	–
Butylene Glycol	technically pure	+	+	0	–	–	–
Butylene Liquid	technically pure	+	–	–	–	–	–
Butyric Acid	technically pure	+	–	–	–	–	–
Cadmium Salts, Aqueous, Inorganic	< saturated acid	+	+	+	–	–	–
Caesium Salts, Aqueous, Inorganic	< saturated acid	+	+	+	–	–	–
Calcium Acetate	saturated	+	+	+	–	–	–
Calcium Hydroxide	aqueous, saturated	+	+	+	–	–	–
Calcium Lactate	saturated	+	+	–	–	–	–
Calcium Salts, Aqueous, Inorganic	saturated acid	+	+	+	+	+	–
Carbon Dioxide	technically pure, anhydrous	+	+	+	–	–	–

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		20	40	60	20	40	60
Carbon Tetrachloride	technically pure	–	–	–	–	–	–
Carbonic acid		+	+	+	–	–	–
Caro's Acid		+	–	–	–	–	–
Caustic Potash Solution (Potassium Hydroxide)	50%, aqueous	+	+	0	–	–	–
Caustic Soda Solution	50%, aqueous	+	+	+	–	–	–
Chloric Acid	10%, aqueous	+	+	0	–	–	–
	20%, aqueous	+	+	0	–	–	–
Chlorine	moist, 97%, gaseous	–	–	–	–	–	–
	liquid, technically pure, as double pipe system	–	–	–	–	–	–
Chlorine	anhydrous, technically pure, as double pipe system	–	–	–	–	–	–
Chlorine Water	saturated	+	+	0	0	–	–
Chloroacetic Acid, Mono	50%, aqueous	+	+	–	–	–	–
	technically pure	+	+	0	–	–	–
Chloroenezene	technically pure	–	–	–	–	–	–
Chloroethanol	technically pure	–	–	–	–	–	–
Chlorosulphonic Acid	technically pure	0	–	–	–	–	–
Chromic Acid	all, aqueous	0	0	–	–	–	–
Chromic Acid, + water + sulphuric acid	50g 15g 35g	+	+	0	–	–	–
Chromium (II)- Salts, Aqueous, Inorganic	≤saturated acid	+	+	+	–	–	–
Compressed Air, Containing Oil		–	–	–	–	–	–
Copper Salts, Aqueous, Inorganic	≤saturated acid	+	+	0	+	+	+
Cresol	cold, saturated, aqueous	0	–	–	–	–	–
Crotonic Aldehyde	technically pure	–	–	–	–	–	–
Cyclohexane	technically pure	–	–	–	–	–	–
Cyclohexanol	technically pure	+	+	+	–	–	–
Cyclohexanone	technically pure	–	–	–	–	–	–
Dextrine	usual commercial	+	+	+	+	+	+
Di Isobutyl Ketone	technically pure	–	–	–	–	–	–
Dibrombenzene	≤saturated acid	–	–	–	–	–	–
Dibutyl Ether		–	–	–	–	–	–
Dibutyl Phthlate	technically pure	–	–	–	–	–	–
Dichloroacetic Acid	50% aqueous	+	+	0	–	–	–
	technically pure	+	+	0	–	–	–
Dichloroacetic Acid Methl Esher	technically pure	–	–	–	–	–	–
Dichlorobenzene	technically pure	–	–	–	–	–	–
Dichloroethylene	technically pure	–	–	–	–	–	–
Diesel Oil		+	+	–	–	–	–
Diethyl ether	technically pure	–	–	–	–	–	–
Diethylamine	technically pure	–	–	–	–	–	–
Dimethyl Formamide		–	–	–	–	–	–
Dimethylamine	technically pure	–	–	–	–	–	–
Dioxane	technically pure	–	–	–	–	–	–
Ethanolamine	technically pure	–	–	–	–	–	–
Ethyl Alcohol (Ethnause)	technically pure, 96%	+	+	0	–	–	–
Ethyl Benzene	technically pure	–	–	–	–	–	–
Ethyl Chloride (G)	technically pure	–	–	–	–	–	–
Ethyl Ether	technically pure	–	–	–	–	–	–
Ethylene Diamine	technically pure	0	–	–	–	–	–
Ethylene Glycol	<50%	+	+	+	0	0	–
	technically pure	+	+	+	–	–	–
Ethylenediamine-Tetraacetic Acid (EDTA)		–	–	–	–	–	–
Fluorine	technically pure	–	–	–	–	–	–
Fluosilicic Acid	32%, aqueous	+	+	+	–	–	–

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		20	40	60	20	40	60
Formaldehyde	40%, aqueous	+	+				
Formamide	technically pure	-			-		
Formic Acid	≤25%	+	+	+			
	up to 50% aqueous	+	+	0	0		
	technically pure	+	0	-	-		
Frigen 12 (Freon 12)	technically pure	+			-		
Fuel oil		+	+		-		
Furfuryl alcohol	technically pure	-			-		
Gelatin	all, aqueous	+	+		+	+	+
Glucose	all, aqueous	+	+	0			
Glycerol	technically pure	+	+	+			
Glycin	10% aqueous	+	+		+	+	
Glycolic acid	37%, aqueous	+					
Heptane	technically pure	+	+		-		
Hexane	technically pure	+	+		-		
Hydrazine Hydrate	aqueous	+			-		
Hydrochloric Acid	up to 30%, aqueous	+	+	0			
	up to 38%, aqueous	+	+	0	-		
Hydrocyanic Acid	technically pure	+	+	0	-		
Hydrofluoric Acid	40%	+	0	0	-		
Hydrogen	technically pure	+	+	+	+	+	+
Hydrogen Chloride	technically pure, gaseous	+	+	0	-		
Hydrogen Peroxide	30%, aqueous	+			-		
	90%, aqueous	+			-		
Hydrogen Sulphide	saturated aqueous	+	+	0			
	technically pure	+	+	+			
Hydroquinone	30%	+	+				
Iodine-Potassium Iodide Solution (Lugol's Solution)		+			-		
Iron Salts, Aqueous, Inorganic	≤saturated acid	+	+	+	+		
Iso-Octane	technically pure	+			-		
Isopropyl Alcohol (ESC)	technically pure	+	+	0			
Isopropyl Ether	technically pure	-			-		
Lactic Acid	10%, aqueous	+	0	-	+	0	-
Lead Acetate	aqueous, saturated	+	+	+	+	+	+
Lead salts, Aqueous, Inorganic	≤saturated acid	+	+	+			
Linseed Oil	technically pure	+	+	0			
Lithium Salts, Aqueous, Inorganic	≤saturated acid	+	+	+			
Magnesium Salts, Aqueous, Inorganic	≤saturated acid	+	+	0			
Maleic Acid	cold saturated, aqueous	+	+	0			
Mercury	pure	+	+	+	+		
Mercury Salts	≤saturated acid	+	+	0			
Methane (Natural Gas)	technically pure	+			+		
Methanol	all	+	+	0	-		
Methyl Acetate	technically pure	-			-		
Methyl Amine	32%, aqueous	0			-		
Methyl Bromide	technically pure	-			-		
Methyl Ethyl Ketone	technically pure	-			-		
Methyl Isobutyl Ketone		-			-		
Methyl Methacrylate		-			-		
Methyl Phenyl Ketone (Acetophenon)		-			-		
Milk		+	+	+	+	+	+
Mineral Water		+	+	+	+	+	+
Mixed Acids, - nitric 15% - hydrofluoric 15% - sulphuric 18%	3 parts 1 part 2 parts	0			-		

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	Material °C Concentration	PVCu			ABS		
		20	40	60	20	40	60
Mixed Acids, - sulphuric - nitric - water	10% 20% 70%	+	+	+	-		
Mixed Acids, - sulphuric - nitric - water	50% 33% 17%	+	0		-		
Mixed Acids, - sulphuric - nitric - water	50% 31% 19%	+			-		
Mixed Acids, - sulphuric - phosphoric - water	30% 60% 10%	+	+		-		
N,N-Dimethylaniline	technically pure	-			-		
N, Methylpyrrolidon		-			-		
Naphthalene	technically pure	-			-		
Nickel Salts, Aqueous, Inorganic	≤saturated acid	+	+	0			
Nitrating acid - sulphuric acid - nitric acid - water	65% 20% 15%	+	0				
Nitric acid	6.3% aqueous	+	+	+			
	≤25%	+	+	+	-		
	65% aqueous	0	0	-	-		
	85%	-			-		
	100%	-			-		
Nitrobenzene	technically pure	-			-		
Nitroluene (O-, M-, P-)	technically pure	-			-		
Nitrous acid		+	+		-		
Nitrous Gases (nitric oxide)	diluted, moist, anhydrous	+			-		
Oleic Acid	technically pure	+	+	+	-		
Oleum	10% SO3	-			-		
Olive Oil		+	+	+	-		
Oxygen	technically pure	+	+	+			
Ozone	up to 2%, in air	+			-		
	cold, saturated, aqueous	+			-		
Palm Oil, Palm Nut Oil		+					
Paraffin Emulsions	usual comm., aqueous	+					
Paraffin Oil		+			0		
Perchloric Acid	10%, aqueous	+					
	70%, aqueous	+			-		
Perchloroethylene (Tetrachloroethylene)	technically pure	-					
Phenol	up to 10%, aqueous	+	0		-		
	up to 90%, aqueous	0			-		
Phosgene	gaseous, technically pure	+	0	0	-		
	liquid, technically pure	-			-		
Phosphoric Acid	85%, aqueous	+	+	+			
	Upto 95%	+	+		-		
Phosphorous chlorides - Trichloride - Pentachloride - Oxichloride	technically pure	-			-		
Photographic Developer	usual commercial	+	+	0	+	+	0
Photographic Emulsion		+	+		+	+	
Photographic Fixer	usual commercial	+	+	0	+	+	0
Phthalic Acid	saturated, aqueous	+	0	-	-		

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		20	40	60	20	40	60
Potassium Hydroxide	50%	+	+	+			
Potassium Aluminium Salts, (alum), Aqueous, Inorganic	≤saturated acid	+	+	+			
Potassium Persulphate (Potassium Peroxidsulfate)	all, aqueous	+	+	0			
Potassium hypochlorite		+	0				
Propane	technically pure, gaseous	+					
	technically pure, liquid	+					
Propanol, N- And Iso-	technically pure	+	0	0			
Propionic Acid	50% aqueous	+	+	0	-		
	technically pure	+	0		-		
Propylene Glycol	<50%	+	+	+			
	technically pure	+	+	+	+		
Pyridine	technically pure	-			-		
Salicylic Acid		+	+	+			
Sea Water		+	+	0	+	+	+
Silicic Acid		+	+	+			
Silicone Oil		+	0	-	+		
Silver Salts, Aqueous, Inorganic	≤saturated acid	+	+	+	+		
Sodium Chlorite	diluted, aqueous	+					
Sodium Hydrochlorite	12.5% active, chlorine, aqueous	+	+		-		
Sodium Persulphate	cold saturated, aqueous	+	+	0			
Sodium Salts, Aqueous, Inorganic	≤saturated acid	+	+	+			
Stannous Chloride	cold saturated, aqueous	+	0	0	+	+	
Starch Solution	all, aqueous	+	+	+	+	+	
Styrene		-			-		
Succinic Acid	all, aqueous	+	+	+	+		
Sulfuryl Chloride	technically pure	-			-		
Sulphur Dioxide	technically pure, liquid	-			-		
	all, moist	+	+	0	-		
Sulphuric Acid	saturated aqueous	+	+	0			
	up to 80%, aqueous	+	+	+	-		
	up to 96%, aqueous	+	+	0	-		
	98%	+	0		-		
Tannic Acid	all, aqueous	+					
Tetrachlorethylene (Perchloroethylene)		-			-		
Tetrachloroethane	technically pure	-			-		
Tetraethylene Lead	technically pure	+			-		
Tetrahydrofurane	technically pure	-			-		
Tin Salts, Aqueous, Inorganic	≤saturated acid	+	+	+			
Toluene	technically pure	-			-		
Trichloromethane	100%						
Trichloroethylene	technically pure	-			-		
Trichloroacetic Acid	50%, aqueous	+	0		-		
	technically pure	0			-		
Trichloroethane	technically pure	-			-		
Triethylamine	technically pure	-			-		
Trifluoroacetic acid	up to 50%	-			-		
Turpentine Oil	technically pure	+	0		-		
Urea	up to 30%, aqueous	+	+	0	+	+	
Urine		+	+	0			
Vinyl Acetate	technically pure	-			-		
Vinyl Chloride	technically pure	-			-		
Waste Gases Containing:							
- Alkaline		+	+	+			
- Hydrochloric Acid	all	+	+	+			
- Hydrogen Fluoride	traces	+	+	+			
- Nitrous Gases	traces	+	+	+			

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		20	40	60	20	40	60
- Sulphur Dioxide	traces	0	+				
Water, Drinking, Chlorinated	≤0.1ppm chlorine	+	+	+	+	+	+
Water, - Distilled - De-Ionised		+	+	+	+	+	+
Xylene	technically pure	-			-		
Zinc Salts, Aqueous, Inorganic	≤saturated acid	+	+	+	+		

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The data in the tables is based on information from the raw material suppliers, gained using direct contact between the chemical and the unprocessed raw material. The resistance of any of the finished products against these media has not been verified. There is no given or intended legally binding assurance of material properties or of suitability for a specific purpose. Materials must be tested under actual service conditions to determine the suitability for a specific application.