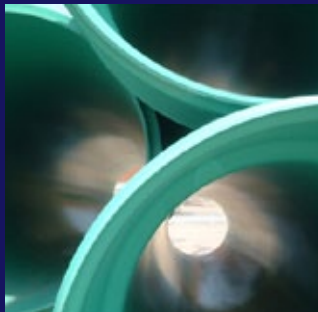




Royal Building Products Chemical Resistance Guide



CHEMICAL RESISTANCE GUIDE

COMPARATIVE CHEMICAL RESISTANCE

Seven Days At
73.4°F

CHEMICAL	PRODUCTS	CHANGE IN WEIGHT %	CHANGE IN DIMENSION %	CHANGE IN ELONGATION %	CHANGE IN TENSILE STRENGTH %	SURFACE *APPEARANCE**
Sulfuric Acid 10%	HF - 2230	0.4	0	-43.0	-2.0	U
	ABS - KJU	0.1	0	+60.0	-3.0	U
	Noryl - N190	0.2	0	-21.0	8.0	U
Sodium Hydroxide, 10%	HF - 2230	0.6	0	-57.0	-2.0	U
	ABS - KJU	0.3	0	94.0	4.0	S
	Noryl - N190	0.2	0	-18.0	9.0	U
Acetic Acid, Glacial	HF - 2230	14.0	12.0	809.0	-56.0	B
	ABS - KJU	--	--	--	--	F
	Noryl - N190	6.0	5.0	20.0	-17.0	S
Formula 409	HF - 2230	0.2	0	-21.0	-3.0	U
	ABS - KJU	0.8	0	324.0	-5.0	U
	Noryl - N190	0.3	0	11.0	-8.0	U
Downy Fabric Softener	HF - 2230	0.2	0	36.0	-3.0	U
	ABS - KJU	0.5	0	170.0	-4.0	U
	Noryl - N190	0.1	0	-26.0	8.0	U
Clorox	NF - 2230	0.3	0	69.0	-3.0	U
	ABS - KJU	0.1	0	10.0	-4.0	U
	Noryl - N190	0.1	0	-24.0	8.0	U
Salad Oil	HF - 2230	0.1	0	10.0	-0.3	F
	ABS - KJU	0	0	26.0	-3.0	U
	Noryl - N190	0.2	0	-10.0	7.0	S
Hexane	HF - 2230	0.2	0	71.0	-2.0	S
	ABS - KJU	0.8	1.0	130.0	-13.0	S
	Noryl - N190	6.0	9.0	122.0	-40.0	S
Ethyl Alcohol, 95%	HF - 2230	0	0	-43.0	-2.0	U
	ABS - KJU	13.0	2.0	121.0	21.0	U
	Noryl - N190	0.1	0	7.0	6.0	U

*Samples placed in flexure: 20° bend

**U - Unchanged
S - Stress Cracking
B - Blistering
F - Fractured

CHEMICAL RESISTANCE GUIDE

KEY:

R - Resistant NR - Not Recommended

REAGENT	TEMPERATURE		REAGENT	TEMPERATURE		REAGENT	TEMPERATURE	
	72°F	140°F		72°F	140°F		72°F	140°F
A			Ammonium Sulfate	R	R	Butanol, Primary	NR	NR
Acetaldehyde	NR	NR	Ammonium Sulfide	R	R	Butanol, Secondary	NR	NR
Acetic Acid, pure	NR	NR	Ammonium Triocyanate	R	R	Butyl Acetate	NR	NR
Acetic Acid, 10%	R	R	Amyl Acetate	NR	NR	Butyl Alcohol	R	NR
Acetic Acid, 20%	R	NR	Amyl Alcohol	NR	NR	Butyl Mercaptan	NR	NR
Acetic Acid, 80%	R	NR	Amyl Chloride	NR	NR	Butyl Phenol	R	NR
Acetic Acid, Glacial	NR	NR	Aniline	NR	NR	Butyl Stearate	R	NR
Acetic Anhydride	NR	NR	Aniline Chlorohydrate	NR	NR	Butyne Dial	NR	NR
Acetone	NR	NR	Aniline Hydrochlorate	NR	NR	Butyric Acid	NR	NR
Acetyl Nitrile	NR	NR	Anthraquinone	R	NR	C		
Acetylene	R	R	Anthraquinonesulfonic Acid	R	R	Cadmium Cyanide	R	R
Acrylic Acid Ethyl Ester	NR	NR	Antimony Trichloride	R	R	Calcium Bisulfide	R	R
Adipic Acid	R	R	Aqua Regia	NR	NR	Calcium Bisulfite	R	R
Alcohol, Butyl	R	R	Aromatic Hydrocarbons	NR	NR	Calcium Carbonate	R	R
Alcohol, Ethyl	R	R	Arsenic Acid, 80%	R	R	Calcium Chlorate	R	R
Alcohol, Methyl, Butyl	R	R	Arsenic Trioxide (powder)	R	R	Calcium Chloride	R	R
Alcohol, Propyl, Ethyl	R	R	Arylsulfonic Acid	R	NR	Calcium Chloride	R	R
Allyl Alcohol, 96%	NR	NR	B			Calcium Hydroxide	R	R
Allyl Chloride	NR	NR	Barium Carbonate	R	R	Calcium Hypochlorite	R	R
Alum	R	R	Barium Chloride	R	R	Calcium Nitrate	R	R
Aluminum Alum	R	R	Barium Hydroxide	R	R	Calcium Oxide	R	R
Aluminum Chloride	R	R	Barium Hydroxide	R	R	Calcium Sulphate	R	R
Aluminum Fluoride	R	R	Barium Nitrate	R	R	Carbon Bisulfide	NR	NR
Aluminum Hydroxide	R	R	Barium Sulfate	R	R	Carbon Dioxide	R	R
Aluminum Oxychloride	R	R	Barium Sulfide	R	R	Carbon Monoxide	R	R
Aluminum Nitrate	R	R	Beer	R	R	Carbon Tetrachloride	NR	NR
Aluminum Sulfate	R	R	Beet Sugar Liquors	R	R	Carbonic Acid	R	R
Ammonia (Gas-dry)	R	R	Benzaldehyde, 10%	NR	NR	Castor Oil	R	R
Ammonia (Liquid)	NR	NR	Benzaldehyde, above 10%	NR	NR	Caustic Potash	R	R
Ammonium Acetate	R	R	Benzene	NR	NR	Celosolve	R	NR
Ammonium Alum	R	R	Benzoic Acid	R	R	Caustic Soda	R	R
Ammonium Bifluoride	R	R	Bismuth Carbonate	R	R	Chloracetic Acid	R	NR
Ammonium Bisulfate	R	R	Black Liquor	R	R	Chloral Hydrate	R	R
Ammonium Carbonate	R	R	Bleach (12% Cl)	R	R	Chloric Acid, 20%	R	R
Ammonium Chloride	R	R	Borax	R	R	Chloride (Water)	R	R
Ammonium Dichromate	R	R	Boric Acid	R	R	Chlorine Gas (Dry)	NR	NR
Ammonium Fluoride, 25%	NR	NR	Breeder Pellets (fish deriv.)	R	R	Chlorine Gas (Wet)	NR	NR
Ammonium Hydroxide	R	R	Bromic Acid	R	R	Chlorine (Water)	R	R
Ammonium Hydroxide, 10%	R	R	Bromine (Liquid)	NR	NR	Chloracetic Acid	R	NR
Ammonium Hydroxide, 28%	R	R	Bromine (Vapor/25%)	R	R	Chlorobenzene	NR	NR
Ammonium Metaphosphate	R	R	Bromobenzene	NR	NR	Chloroform	NR	NR
Ammonium Nitrate	R	R	Bromine Water	NR	NR	Chloropicein	NR	NR
Ammonium Persulfate	R	R	Butadiene	NR	NR	Chlorosulfonic Acid	R	NR
Ammonium Phosphate	R	R	Butane	NR	NR	Clorox Bleach Solution	R	R

CHEMICAL RESISTANCE GUIDE

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REAGENT	TEMPERATURE		REAGENT	TEMPERATURE		REAGENT	TEMPERATURE	
	72°F	140°F		72°F	140°F		72°F	140°F
Chrome Alum	R	R	Ethyl Acetate	NR	NR	Gasoline, Jet Fuel, JP-5	R	R
Chromic Acid, 10%	R	R	Ethyl Acrylate	NR	NR	Glucose	R	R
Chromic Acid, 50%	NR	NR	Ethyl Alcohol	R	NR	Gas (Coke Oven)	NR	NR
Chromic/Nitric Acid, 15-35%	NR	NR	Ethyl Chloride	NR	NR	Glycerine	R	R
Chromic/Sulfuric/Water, 50/15/35	R	NR	Ethyl Ether	NR	NR	Glycolic Acid	R	R
Citric Acid	R	R	Ethylene Bromide	NR	NR	Grape Sugar	R	R
Coconut Oil Alcohol	R	R	Ethylene Chlorohydrin	NR	NR	Gulfpride No. 10 Oil	R	R
Coke Oven Gas	R	R	Ethylene Dichloride	NR	NR			
Copper Carbonate	R	R	Ethylene Glycol	NR	NR	H		
Copper Chloride	R	R	Ethylene Oxide	NR	NR	Heptane	R	NR
Copper Cyanide	R	R				Hexane	NR	NR
Copper Fluoride	R	R	F			Hexanol, Tertiary	R	NR
Copper Nitrate	R	R	Fatty Acids	R	R	Hydrobromic Acid, 20%	R	R
Copper Sulfate	R	R	Ferric Acetate	R	NR	Hydrochloric Acid, 10%	R	R
Corn Syrup	R	R	Ferric Chloride	R	R	Hydrochloric Acid, Conc	R	NR
Cottonseed Oil	R	R	Ferric Hydroxide	R	R	Hydrochloric Acid	R	NR
Cresol	NR	NR	Ferric Nitrate	R	R	Hydrochlorite	R	
Cresylic Acid, 50%	R	R	Ferric Sulfate	R	R	Hydrocyanic Acid	R	R
Crotonaldehyde	NR	NR	Ferrous Chloride	R	R	Hydrofluoric Acid, 48%	R	NR
Crude Oil	R	NR	Ferrous Nitrate	R		Hydrofluoric Acid, 50%	NR	NR
Cupric Fluoride	R	R	Ferrous Sulfate	R	R	Hydrofluoric Acid, 70%	NR	NR
Cupric Sulfate	R	R	Fish Solubles	R	R	Hydrofluorsilic Acid	R	R
Cuprous Chloride	R	R	Fluoboric Acid	R	R	Hydrogen	R	R
Cyclanones	R	R	Fluorine, Gas (Wet)	R	NR	Hydrogen Peroxide, 30%	R	R
Cyclohexanol	NR	NR	Fluorine Gas	NR	NR	Hydrogen Peroxide, 50%	R	R
Cyclohexanone	NR	NR	Fluorosilicic Acid, 25%	R	R	Hydrogen Peroxide, 90%	R	R
			Formaldehyde	R	NR	Hydrogen Phosphide	R	R
D			Formic Acid	R	NR	Hydrogen Sulfide	R	R
D.D.T. (Xylene Base)	NR	NR	Fructose	R	R	Hydroquinone	R	R
Detergents	R	R	Fruit Juices and Pulp	R	R	Hydroxylamine Sulfate	R	R
Dextrin	R	R	Furfural	NR	NR	Hypochlorene Acid	R	R
Dextrose	R	R	Freon 11	NR	NR	Hypochlorous Acid	R	R
Dizao Salts	R	R	Freon 12	R	R	Hydrazine (Anhydrous), 97%NR		NR
Dimethyl Hydrazine	NR	NR	Freon 21	NR	NR			
Dimethylamine	NR	NR	Freon 22	NR	NR	I		
Diethylphthalate	NR	NR	Freon 113	R	R	Iodine	NR	NR
Disodium Phosphate	R	R	Freon 114	R	R	Iodine Solution (10%)	R	NR
Distilled Water	R	R	Carene 500	NR	NR			
						K		
E			G			Kerosene	R	R
Esters	NR	NR	Gallic Acid	R	R	Keystones	NR	NR
Ethers	NR	NR	Gasoline	R	NR	Kraft Liquors	R	R
			Gasoline, High Octane	R				
			Gasoline, Jet Fuel, JP-4	R	R			

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REAGENT	TEMPERATURE		REAGENT	TEMPERATURE		REAGENT	TEMPERATURE	
	72°F	140°F		72°F	140°F		72°F	140°F
L			Methyl Sulfate	R	NR	Perchloric Acid, 15%	NR	NR
Lactic Acid, 25%	R	R	Methyl Sulfuric Acid	R	R	Perchloric Acid, 70%	NR	NR
Lactic Acid, 80%	R	R	Milk	R	R	Petroleum Liquifier	R	R
Lard Oil	R	R	Mineral Oils	R	R	Phenol	R	NR
Lauric Acid	R	R	Mixed Acids	R	R	Phenylhydrazine	NR	NR
Lauryl Chloride	R	R	Molasses	R	R	Phenylhydrazine Hydrochloride		
Lead Acetate	R	R	Muriatic Acid	R	R		NR	NR
Lead Chloride	R	R	N			Phosgene, Liquid	NR	NR
Lead Nitrate	R	R	Naptha	R	NR	Phosgene, Gas	R	R
Lead Sulfate	R	R	Napthalene	NR	NR	Phosphoric Acid, 10%	R	R
Linoleic Acid	R	R	Natural Gas	R	R	Phosphoric Acid, 25%	R	R
Linoleic Oil	R	NR	Nickel Chloride	R	R	Phosphoric Acid, 75%	R	R
Linseed Oi	R	R	Nickel Nitrate	R	R	Phosphoric Acid, 85%	R	R
Liquers	NR	NR	Nickel Sulphate	R	R	Phosphorus (Yellow)	R	NR
Lithium Bromide	R	R	Nicotine	R	R	Phosphorus Pentoxide	R	NR
Lubricating Oil, ASTM No. 1	R	R	Nicotine Acid	R	R	Phosphorus Trichloride	NR	NR
Lubricating Oil, ASTM No. 2	R	R	Nitric Acid, Anhydrous	NR	NR	Photographic Solutions:		
Lubricating Oil, ASTM No. 3	R	NR	Nitric Acid, 10%	R	NR	DK No. 3	R	R
Lux Liquid	R	R	Nitric Acid, 30%	R	NR	Dektal Developer	R	R
			Nitric Acid, 60%	R	NR	Kodak Fixer	R	R
M			Nitric Acid, 68%	NR	NR	Kodak Short Stop	R	R
Machine Oil	R	R	Nitric Acid, 68%	NR	NR	Picric Acid	NR	NR
Magnesium Carbonate	R	R	Nitrobenzene	NR	NR	Potash (Sat. Aq.)	R	R
Magnesium Chloride	R	R	Nitroglycerine	NR	NR	Potassium Alum	R	R
Magnesium Citrate	R	R	Nitrous Oxide	R	R	Potassium Amyl Xanthate	NR	NR
Magnesium Hydroxide	R	R	Nitroglycol	NR	NR	Potassium Bicarbonate	R	R
Magnesium Nitrate	R	R	O			Potassium Bichromate	R	R
Magnesium Sulfate	R	R	Ocenol	R	R	Potassium Bisulfate	R	R
Maleic Acid	R	R	Oils and Fats	R	R	Potassium Borate	R	R
Malic Acid	R	R	Oils, Sour Crude	R	R	Potassium Bromate	R	R
Manganese Chloride	R	R	Oleic Acid	R	R	Potassium Bromide	R	R
Manufactured Gas	R	R	Oleum	NR	NR	Potassium Carbonate	R	R
Mercuric Chloride	R	R	Oxalic Acid	R	R	Potassium Chromate	R	R
Mercuric Cyanide	R	R	Oxygen	R	R	Potassium Chlorate	R	R
Mercuric Sulfate	R	R	Ozone	R	R	Potassium Chloride	R	R
Mercurous Nitrate	R	R	P			Potassium Cyanide	R	R
Mercury	R	R	Palmitic Acid, 10%	R	R	Potassium Dichromate	R	R
Methylamine	NR	NR	Palmitic Acid, 70%	NR	NR	Potassium Ethyl Xanthate	NR	NR
Methyl Alcohol	R	R	Paraffin	R	R	Potassium Ferricyanide	R	R
Methyl Chloride	NR	NR	Peracetic Acid, 40%	NR	NR	Potassium Ferrocyanide	R	R
Methylene Chloride	NR	NR	Perchloric Acid, 10%	R	R	Potassium Fluoride	R	R
Methy Ethyl Ketone	NR	NR				Potassium Hydroxide	R	R
Methyl Iso-butyl Ketone	NR	NR				Potassium Nitrate	R	R
						Potassium Perborate	R	R
						Potassium Perchlorate	R	R

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REAGENT	TEMPERATURE		REAGENT	TEMPERATURE		REAGENT	TEMPERATURE	
	72°F	140°F		72°F	140°F		72°F	140°F
Potassium Permanganate, 10%	R	R	Sodium Bicarbonate	R	R	Sulfurous Acid	R	R
Potassium Permanganate, 25% @125°	R		Sodium Bichromate	R	R	Sulfuric/Nitric (50/50) 69% 68%	NR	NR
Potassium Persulfate	R	R	Sodium Bisulfate	R	R	T		
Potassium Sulfate	R	R	Sodium Bisulfite	R	R	Tall Oil	R	R
Propane	R	R	Sodium Bromide	R	R	Tannic Acid	R	R
Propane Gas	R	R	Sodium Carbonate	R	R	Tanning Liquors	R	R
Propargyl Alcohol	R	R	Sodium Chlorate	R	R	Tartaric Acid	R	R
Propyl Alcohol	R	NR	Sodium Chloride	R	R	Tetraethyl Lead	R	NR
Propylene Dichloride	NR	NR	Sodium Chlorite	NR	NR	Tetrahydrofurane	NR	NR
Plating Solutions:			Sodium Cyanide	R	R	Thionyl Chloride	NR	NR
Brass	R	R	Sodium Dichromate	R	R	Tirpineol	R	
Cadmium	R	R	Sodium Ferricyanide	R	R	Titanium Tetrachloride	NR	NR
Copper	R	R	Sodium Ferrocyanide	R	R	Toluol or Toluene	NR	NR
Gold	R	R	Sodium Fluoride	R	R	Transformer Oil	R	R
Indium	R	R	Sodium Hydroxide, 10%	R	R	Tributyl Phosphate	NR	NR
Lead	R	R	Sodium Hydroxide, 30%	R	R	Trichloroethylene	NR	NR
Nickel	R	R	Sodium Hydroxide, 50%	R	R	Triethanolamine	R	NR
Rhodium	R	R	Sodium Hypochlorite	R	R	Trilones	NR	NR
Silver	R	R	Sodium Nitrate	R	R	Trimethyl Propane	R	R
Tin	R	R	Sodium Nitrite	R	R	Trisodium Phosphate	R	R
Zinc	R	R	Sodium Peroxide, 8750	R	R	Turpentine	NR	NR
Pyridine	NR	R	Sodium Perchlorate	R	R	Trimethylamine	NR	NR
Pyrogalllic Acid	R	NR	Sodium Sulfate	R	R	U		
R			Sodium Sulfide	R	R	Urea	R	R
Rayon Coagulating Bath	R	R	Sodium Sulfite	R	R	Urine	R	R
Rochelle Salts	R	R	Sour Crude Oil (West Texas)	R	R	V		
S			Stannic Chloride	R	R	Vinegar	R	R
Salicylic Acid	R	R	Starch	R	R	Vinyl Acetate	NR	NR
Sea Water	R	R	Stearic Acid	R	R	W		
Selenic Acid	R	R	Stoddards Solvent	NR	NR	Water, Acid Mine	R	R
Sewerage	R	R	Succinic Acid	R	R	Water, Deionized	R	R
Silicic Acid	R	R	Sulfur	R	R	Water, Demineralized	R	R
Silver Cyanide	R	R	Sulfur Dioxide, (Dry)	R	R			
Silver Nitrate	R	R	Sulfur Dioxide, (Wet)	NR	NR			
Silver Plating Solution	R	R	Sulfur Trioxide	R	R			
Silver Sulfate	R	R	Sulfuric Acid, 3%	R	R			
Soaps	R	R	Sulfuric Acid, 10%	R	R			
Sodium Acetate	R	R	Sulfuric Acid, 20%	R	R			
Sodium Alum	R	R	Sulfuric Acid, 33%	R	R			
Sodium Benzoate	R	R	Sulfuric Acid, 50%	R	R			
			Sulfuric Acid, 70%	R	R			
			Sulfuric Acid, 80%	NR	NR			
			Sulfuric Acid, 85%	NR	NR			
			Sulfuric Acid, 90%	NR	NR			
			Sulfuric Acid, 95%	NR	NR			