

Chemical Resistance Guide

The data in the following tables was obtained from numerous sources in the industry. The information is based primarily on the immersion of unstressed strips in the chemicals at ambient temperature and, to a lesser degree, on field experience. The end user should be aware of the fact that actual service conditions will affect the chemical resistance. It should be noted in the following charts that the "A" rating does not mean or imply that material will perform within original specification. The chemical resistance table should be used for reference only. It is the ultimate responsibility of the end user to determine the compatibility of the chemical being used in his or her particular application. Contact Hayward for information on Eastar® products.

CHEMICALS												CHEMICALS																				
	CPVC	Pp	PTFE	PVC	PVC-gF (Fiberc®)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buena N)	Hastelloy® C		Monel® C	T8-8SS	316SS	416SS	Titanium	CPVC	Pp	PTFE	PVC	PVC-gF (Fiberc®)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buena N)	Hastelloy® C	Monel® C	T8-8SS	316SS	416SS
Acetal Benzene			A				A	X	X								Acrylic Emulsions	X														
Acetal Oxide			A				B	X	C								Acrylonitrile	X	B	A	X	X	A	X	X	C	AB	A	A	A	A	A
Acetaldehyde	X	B	A	X	X	C	B	X	X					A	A	A	Adipic Acid, Aq.	A	A	A	A	A	A	A	A	A	A	AB	A	A	A	A
Acetaldehyde, Aq.	X	A	A	X	X	X	A	A	B		A	A	A	A	A	A	Air	A	A	A	A	A	A	A	A	A						
Acetamide		A	A				A	A	C	A	A			A	A		Alcohol	C		A				A	B	A	A	A	A	A	AC	AB
Acetate Solv., Crude	X	X		X	X	A					A		A	A	B	Aldehyde			A				A	X	X							
Acetate Solv., Pure	X	X	A	X	X	A	C	X	X	A		A	A	A		Alkanes			A				X	A	A							
Acetic Acid 10%	A	A	A	A	A	A	B	X	B					A	A	B	Alkazene			A			X	B	X							
Acetic Acid 20%	B	A	A	A	A	A	B	C	B					A	B	A	Allyl Alcohol	X	A	A	X	C	A		A	B	A	A	A	A	A	
Acetic Acid 30%	B		A	A	A		A	A	C	B						Allyl Aldehyde			A					A	B							
Acetic Acid 5%	A		A	A			A	A	A	B						Allyl Bromide			A					B	X							
Acetic Acid 50%	B	A	A	A	A	A	B	C	A					A	C	Allyl Chloride	X		B	X	X	A	X	B	X	A		AB		A		
Acetic Acid 60%	B	B	A	A	A	A	C	C						A	X	Allyl Trichloride			A				A	X								
Acetic Acid 80%	B	C	A	B	C	A	A	B	C	C				A	X	Alum	A	A	A	A	A	A	A	A	A	A	AB	AC	AB	X	A	
Acetic Acid, Glacial	X	B	A	X	C	B	C	B	X	X				A	X	Aluminum Acetate	A		A				A	C	B	A	AC	A	AB	AC	A	
Acetic Aldehyde			A				A	X	X							Aluminum Bromide			A				A	A	A							
Acetic Anhydride	C	B	A	X	X	B	C	X	C	A	AB	A	X	B	Aluminum Chloride	A	A	A	A	A	A	A	A	A	A	A	X	X	X	AB		
Acetic Ester			A				B	X	X						Aluminum Fluoride	A		A	C	A		A	A	A	AB	A	X	C	X	A		
Acetic Ether			A				B	X	X						Aluminum Formate			A					X	X								
Acetol			A												Aluminum Salts			A	A	A	A		A	A	A				X	X		
Acetone	X	B	A	X	X	X	C	A	X	C	A		A	A	AB	A	Aluminum Sulfate	A	A	A	A	A	A	A	A			B	X	A		
Acetonitrile		B	A	X	X	A	C	A	C	C				A	AB	Amber Acid	A	A	A	A	A	A	A	A								
Acetophenone	X	A	A	X		A	A	X	C					A	A	Amines	X		A	C	C	B		X	X	AB	A	A	A	A	AB	
Acetyl Acetone	X		A	X	X	X		A	X	X				A	AB	Ammon. Metaphosph.	A	A	A	A	A	A		A	A	A						
Acetyl Bromide			A			A										Ammonia 10%	X	A	A	A	A			A	X				A	A	A	
Acetyl Chloride	X	A	A	X	X	A	X	C	C		BC	AC	AB			Ammonia, Anhydrous	X	A	A	X	X	B	A	X	C	A	AB		A	A	AB	
Acetyl Propane			A				B	X	X							Ammonia, Aq. 25%	A	A		A	A	A								B		
Acetylene Dichl.			A													Ammonia, Dry Gas	A	A	A	A	A		A	X	A			A		A	A	
Acetylene Tetrachl.			A				X	A	X	A						Ammonia, Liquid	X	A	A	X	X	A	C	A	X	B	A	A	AB	A	AB	
Acetylene	C	A	A	C	C	A	A	A	A	A						Ammonia, Nitrate	B	A		B	C	A		A	A	B			A	A		
Acid Mine Water	A	B	A	A	A	A										Ammonium Acetate	A	A	A	A	A		A	A	A	A	A		A		X	
Acrylic Acid	X		A	X	X	A										Ammonium Alum	X	A	A	X	C	A		A	A	B	A	BC	A	A	A	

A = Excellent, no effect • B = Good, minor effect • C = Fair, data not conclusive, testing recommended • X = Not recommended.

Ratings are based on testing at an ambient temperature of 70°F. The chemical resistance table is for reference only. End users should test to determine application suitability. Butterfly valves, Solenoid valves, Diaphragm valves and all other valves with elastomers fully exposed to process media should derate elastomer scores by one level (i.e. "B" becomes "C", "C" becomes "X").

Chemical Resistance Guide, CONTINUED

CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fiberglass)	PVDF	Ultem® (GF 40%)	EPDM	FDM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS	316 SS	416 SS	Titanium	CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fiberglass)	PVDF	Ultem® (GF 40%)	EPDM	FDM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS	316 SS	416 SS	Titanium
Ammonium Bichrom.			A				A	A									Aqua Regia	X	X	A	X		A	C	C	C	X	X	X	X	X	A	
Ammonium Bifluoride	A	A	A	A	A		A	A	B	A	B	X	X			X	Argon	X		A	X			A	A	C		A	A	A	A		
Ammonium Bisulfide				A	A	A											Arochlor									A	X	A	A		B		A
Ammonium Carbonate	A	A	A	A	A		A	A	C	AB	AB	AB	AB	B	A		Aromatic Hydrocarbons	X			X	X		X	A	X				A			
Ammonium Casenite															A		Arsenic Acid	A	A	A	A	A	A	A	A	B	AB	A	AB	AB	B	AB	
Ammonium Chloride	A	A	A	A	A		A	A	B	AB	A	X	AB	X	A		Arsenous Acid																
Ammonium Dichromate	A		A	A	A		A		A								Aryl Sulfonic Acid	X	X		X	X											
Ammonium Fluoride 20%	A	A	A	A	C	A	A	A									Asphalt	X	A	A	X	X	A	X	A	B	A	A	A	A	AB	A	
Ammonium Fluoride	A		A	A					B	A			X		BC		Aviation Fuel			A							A	A	A	A	A		
Ammonium Hydroxide	X	A	A	A	A	X	A	B	B	A	X	AC	A	A	A		Aviation Turbine Fuel			A							A	A	A	A	A	A	
Ammonium Nitrate	B	A		B	A	A	A	A	AB	C	A	A	B	A			Baking Soda			A				A	A	A					A		
Ammonium Oxalate									A	A	A	A	A	A			Barium Carbonate	A	A	A	A	A	A	A	A	A	B	AB	AB	B	AB	A	
Ammonium Persulfate	A	C	A	A	A	A	B	C	C	B	X	AC	A	AC	A		Barium Chloride	A	A	A	A	A	A	A	A	A	AB	A	AB	BC	A		
Ammonium Ph. Di Basic	A	A	A	A	A		A	A	A	AB	AB	BC	A	AC	A		Barium Cyanide									A	C	A		A	A	C	
Ammonium Ph. Mono	A	A	A	A	A		A	A	A	A	B	C	A	A	A		Barium Hydrate			A				A	A	A	A	A	A	A	A		
Ammonium Ph.Tri.	A	A	A	A	A		A	A	A	A	AB	AB	A	AB	A		Barium Hydroxide	A	A	A	A	A	A	A	A	B	A	AB	AB	AB	A		
Ammonium Phosphate	A	A	A	A	A	A	A	A	A						A		Barium Nitrate	A	A	A	A	A			A	A		X	AB	B	B	A	
Ammonium Salts		A	A	A	A	A	A	C	A				X				Barium Salts		A	A	A	A	A	A	A	A				A			
Ammonium Sulfate	A	A	A	A	A	A	A	C	B	A	AB	AB	A	B	A		Barium Sulfate	A	A	A	A	A	A		A	A	A	AB	AB	AB	C	AB	
Ammonium Sulfide	A	A	A	A	A	A	A	C	A	A		BC	A	C			Barium Sulfide	A	A	A	A	A	A	A	A	A	A	A	AB	A	A		
Ammonium Thiocyanate	A	A	A	A	A		A	A	A	A			A				Beer	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	
Ammonium Thiosulfate			A				A	A	A		AB	A	C	A			Beet Sugar Liquid	A	A	A	A	A		A	A	A				A	A		
Ammonium, Fluoride 10%	A	A	A	A	C	A	A	A									Beet Sugar Liquor	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	
Ammonium, Fluoride 25%	A	A		X	X	A											Benzaldehyde	X	C		X	X	C	C	C	X	A	B	A	A	C	A	
Amyl Acetate	X	X	A	X	X	C	A	X	C	A	A	AB	A	AB	A		Benzalkonium Chl.				A												
Amyl Alcohol	B	A	A	C	C	A	A	A	A	A	A	AB	A	A	AB		Benzene Sulf Ac .	X	X	A	X	X	B	X	A	C	B	B	A	AB		AB	
Amyl Borate			A		A		X	A	A								Benzene Sulf. Ac. 10%	X	X	A	X	X	B		A								
Amyl Bromide			A				X	B	X								Benzene	X	C	A	X	X	B	C	X	B	C	AB	A	A	AB	A	A
Amyl Chloride	X	X	A	X	X	A	X	A	X	A	A	AB	A	AC	X		Benzoic Acid	A	A	A	A	A	A	B	A	X				B	B	A	
Aniline Chlorohydrate				X	X												Benzyl Alcohol	X	A	A	X	X	A	X	C	A	X		A	C	AB	A	A
Aniline Hydrochloride	X	A	A	X	X	A	B	B	C					X			Benzyl Benzoate			A				C	A	X			C	AB	C		
Aniline	X	A	A	X	X	C	B	B	X	A	B	AB	A	B	AC		Benzyl Chloride	X	A	A				X	A	X	B		C	AB	C		
Anthraquinone Sulf. Ac.	A	A		A	A	A		A									Bismuth Carbonate	A	A	A	A	A	A	A	A	A							
Antichlor			A				A	A	A								Black Liquor	A	A	A	A	A	A	B	A	A	AC		A	A	AC		
Anti-Freeze		A	A	A	A		C	A	A	A	A			A			Borax	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Antimony Chloride		A	A		A			A	X								Boric Acid	A	A	A	A	A	A	A	A	B	A	AC	B	B	BC	A	
Antimony Pentachloride			A						X								Brake Fluid			A			C	A	X	C	A	A	A	A	A		
Antimony Trichloride	A	A	A	A	A		A	A	A	A	AB	X	A	X	AB		Brewery Slop									A	A			A			
																	Brine Acid	A	A	A	A	A	A	A	A	A							

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CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fibloc™)	PVDF	Ulitam® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel®	18-8 SS	316 SS	416 SS	Titanium	CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fibloc™)	PVDF	Ulitam® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel®	18-8 SS	316 SS	416 SS	Titanium
Brine Acid	A	A	A	A	A	A	A	A	A								Butyric Acid	B	A	A	X	A		B	B	X	A	A	AC	AB	X	A	
Brine	A	A	A	A	A	A	A	A	A	A	A	A	A	A			Cadmium Cyanide	A			A	A			A								
Bromic Acid	A	X	A	A	A	A	B	A		A			X				Cadmium Salts	A	A			A		A									
Bromine Gas		X	A	C	C	A	X	A	X	A	X	X	X	X	A		Caffeine Citrate			A	A		A										
Bromine Dry			A				X	A	X	A	A	X	X	X	AB		Calamine			A					A	B							
Bromine Liquid, Br	X	X	A	X	X	A	X	A	X	A	A	X	X	X	X		Calcium Acetate	A	A	A	A	A	A	A	X	B		AB	C	AB	C		
Bromine Water	C	C	A	X	X	A	X	A	C	A	X	X	X	X	A		Calcium Bisulfate	A	A	A	A	A	A	X	A	A			C	X	X		
Bromobenzene	X		A	X	X		X	A	C								Calcium Bisulfide	A	A	A	A	A	A	X	A	A	A		AB		A		
Bromotoluene	X	X		X	X												Calcium Carbonate	A	A	A	A	A	A	A	A	A	B	AB	A	AB	A	AB	
Butadiene Gas	A	A	A	B	C	A	X	A	X	AC	A	A	A	A			Calcium Chlorate	A	A	A	A	A	A	A	A	A	AB	AC	A	B	C	A	
Butane	A	A	A	A	A	A	X	A	A	A	A	A	A	A	A		Calcium Chloride	A	A	A	A	A	A	A	A	A	A	AC	X	B	X	A	
Butanediol	B			A	A	A	X	A									Calcium Cyanide			A				A	A								
Butter			A					A	A					A	A		Calcium Hydroxide	A	A	A	A	A	A	A	A	A	A	A	AB	AB	A	A	
Buttermilk			A					A	A					A	A		Calcium Hypochlorite			A				A	A	X							
Butyl Acetate	X	C	A	X	X	B	C	B	X	C	A	A	A	A	A		Calcium Hypochlorite	A	B	A	A	A	A	A	A	B	A	X	X	AB	X	A	
Butyl Acrylate Pure	X	X	A	X	X	A		A	X								Calcium Nitrate	A	A	A	A	A	A	A	A	B	AB	A		AB		AB	
Butyl Acrylate Satur.								A	X								Calcium Oxide	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Butyl Alcohol (Butanol)	A	A	A	C	C	A	A	A	A	A	A	A	A	A	A		Calcium Phosphate			A				A	A	A	AB		C	AB	C	AB	
Butyl Amine	X	X	A	X	X	B	X	X	C	AB				A	A	AB	Calcium Sulfate	A	A	A	A	A	A	A	A	A	AB	A		A	AB	A	
Butyl Benzoate			A					A	A	X							Calcium Sulfide	A	A	A	A	A	A	A	A	A		AB	A	AB	BC		
Butyl Bromide			A			A		B	X								Calcium Thiosulfate			A				A	A	B							
Butyl Butyrate			A					B	C	X							Calgon		C	A			A		A	A		A	A	A			
Butyl Carbitol	X		A					A	A	C							Cane Sugar Liquors	A	A	A	A	A	A	A	A	A		A	A	A	B		
Butyl Cellosolve	X		A	A	A	A	B	X	C	A	A	C	A	AC	AB		Caprylic Acid			A						C							
Butyl Chloride			A			A		A	X	A	A	A	A		A		Carbinol			A				A	X	A							
Butyl Diol	A	A	A	B	C	A	A	A									Carbolic Acid	A	A							C	A	B	A	A	AB	AB	
Butyl Ether	X	X	A	X	X	A	X	X	B				A	A	A		Carbon Bisulfide	X	X	A	X	X	A		A	X			C				
Butyl Formate			A						X								Carbon Dioxide	A	A	A	A	A	A	B	A	A	A	A	A	A	A	A	
Butyl Hydrate			A					B	A	A							Carbon Disulfide	X	X	A	X	X	A	X	A	C	A	B	A	A	AC	AB	
Butyl Hydride			A					X	A	A							Carbon Monoxide	A	A	A	A	A		A	A	A	A	A	A	A	A	A	
Butyl Hydroxide			A					B	A	A							Carbon Tetrachloride	X	X	A	X	X	A	A	X	B	C	A	A	AB	AB	A	A
Butyl Mercaptan			A	X	X	A											Carbonic Acid	A	A	A	A	A	A	A	A	B	A	A	AB	A	AC	AB	
Butyl Phenol	A	A		C	C	A				A				A	A		Casein			A				A	A	A							
Butyl Phthalate	X	A	A	X	X	A	B	C	X	AB	AB	AB	AB	A	A		Castor Oil	C	A	A	A	A	A	B	A	A	A	A	A	A	A	A	
Butyl Stearate			A			A		B	A	B			C	A	AC		Catsup	A	A		A	A			A	A							
Butylbenzene			A					A	X								Caustic Lime																
Butylene	A	X	A	A	A	A	X	A	B	A	A	A	A	A			Caustic Potash																
Butyraldehyde			A					B	X	X	A						Caustic Soda																

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Cellosolve	X	A	A	B	A	C	B	C	C	A	A	C	C	AC	AB	
Chloral Hydrate	A	A		A	A			A	C							
Chloric Acid 20%	A	X		A	A											
Chloric Acid	A		A	A	A				X	AB	X	X	X	X		
Chlorinated Glue							B	A	C				A			
Chlorine Dioxide	A	C	A	A	A		X	A		A	X	X	X	X	AB	
Chlorine Gas, Dry	X	X	A	X	X	A	A	X	B	C	A	AB	B	B	BC	X
Chlorine Gas, Wet	X	X	A	X	X	A	C	X	C	C	A	C	X	X	X	A
Chlorine Water	A	C	A	A	A		B	A	C	A	C	X	X	X	A	
Chlorine, Dry	X		A				B	C	X				A		X	
Chlorine, Liquid	X	X	C	X	X	A			C							
Chloroacetic Acid		X	A	A			B	X	X	A	B	X	X	X	A	
Chlorohydr. Alum			A													
Chlorosulfonic, Acid	X	X	A	X	X	C	X	X	X	A	AC	X	X	X	A	
Chocolate Syrup		A						A	A	AB	AB	A	A	A		
Chresylic Acid 50%				A	B			A	X				A			
Chrome Alum	A	A		A	A			A	A							
Chrome Alum	A	A		A	A			A	A							
Chromic Acid 10%	A	B	A	A	A	A	B	A	X							A
Chromic Acid 20%	A	X	A	B	C	A		B	B	C						A
Chromic Acid 30%	A	X	A	B	C	A		A	X							A
Chromic Acid 5%	A	X		A	A		A	A	A	X				A		A
Chromic Acid 50%	X	X	A	X	X	A	C	B	A	X			X			A
Chromium Alum	A	A	A	A	A		A	A								
Citric Acid	A	A	A	A	A	A	A	A	B	A	AB	AB	B	BC	A	
Citric Oils	X	A	A				B	A	A	A			A			
Cobalt Chloride			A				A	A	A							
Coconut Oil	A	A	A	A	A		B	A	A	A	BC		A	AC		
Cod Liver Oil			A				A	A	B	A	A	A	A	A		
Coffee	A	A					A	A	A	A	AC	A	A	A	A	
Coke Oven Gas	A	A	A	X	X	A	A	A	X			A	A	A		
Cola Concentrates		A														
Copper Acetate	A	A	A	A	A		A	X	B	A	X	A	A	AB		
Copper Borofluoride	A	A	A	A	A		A	A								
Copper Carbonate	A	A	A	A	A		A	A	X	A	X	A	A	BC	A	
Copper Chloride	A	A	A	A	A		A	A	A	A	X	X	X	BC	A	
Copper Cyanide	A	A	A	A	A		A	A	B	A	X	A	B	AB	A	
Copper Fluoborate			A	A	A			A	B	B	C		X			
Copper Fluoride	A	A	A	A	A											
Copper Nitrate	A	A	A	A	A											
Copper Salts	A	A	A	A	A											
Copper Sulfate 5%	A	A	A	A	A											
Copper Sulfate	A	A	A	A	A		A	B	B	A	AB	AB	A	AB	A	
Corn Oil	A	A	A	A	A		B	A	A	A	A	A	A	A		
Corn Syrup	A	A	A	A	A		B	A	A				A			
Cottonseed Oil	A	A	A	A	A		B	A	B	A	A	AB	A	A	A	
Cream	A	A						A	A				A			
Creosol	X	C	A	X	X	C	X	A	X			A	A			
Creosote	X		A	X	X		X	A	B	A	A	A	A	AB	A	
Cresols	X	C	A	X	X	A	X	A	X	AB			A	A	AB	
Cresylic Acid	C	A	A	C		A	X	A	X	A	A	A	A	A	A	
Croton Aldehyde	X	A	A	X	X	C	B	A								
Crude Oil	A	A	A	A	A		X	A	X	A	AB	A	A	A	A	
Cryolite	B	A	A	B		A	A	A	B							
Cupric Fluoride	A	A	A	A	A		A	A								
Cupric Nitrate			A				A	A	A							
Cupric Salts		A	A	A	A		A	A					X			
Cupric Sulfate	A	A	A	A	A		A	A	A							
Cutting Oil			A				X	A	A			A	A	A		
Cyanic Acid			A				A	A		B		A				
Cyclohexane	X	X	A	X	X	A	A	X	A	C	AB	A	AC	A	AC	A
Cyclohexanol	X	A	A	X	X	C	B	A	B	A		C	A	AC		
Cyclohexanone	X	B	A	X	X	C	C	X	C	A	BC	C	A	BC		
Decalin	X	A	A	X	X	A	X	A	X							
Decanal			A					X	X							
Decane			A				X	A	B							
Detergents	B	B	A	A	A		A	A	A	AB	A		A	A	A	
Detergents, Heavy Duty	A	A		A	A											
Developers			A							A	A	AB	A	A	A	A
Dextrin	A	A	A	A	A		A	A				A	A			
Dextrose	A	A	A	A	A		A	A	A	A			A	A	A	
Diacetone Alcohol	X	C	A	X	X	B	A	X	C	A	A	A	A	A	A	
Diallyl Phthalate																
Diazo Salts	A	A		A	A											
Dibenzyl Ether			A				C					A	A	A		
Dibutyl Amine			A				X	C	C							

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Chemical Resistance Guide, CONTINUED

CHEMICALS														CHEMICALS																				
	CPVC	PP	PTFE	PVC	PVC-GF (Fiberc®)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS		316 SS	416 SS	Titanium	CPVC	PP	PTFE	PVC	PVC-GF (Fiberc®)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS	316 SS	416 SS	Titanium	
Ferric Sulfate	A	A		A	A	A		A	A	B	A	B	A	B	B	A	Glycerol	A	A	A	A	A	A		A	A	A				A			
Ferrous Chloride	A	A	A	A	A	A		A	A	B	AB	X	X	X	X	A	Glycolic Acid	A	A	A	A	A	A		A	A	A	A						
Ferrous Nitrate	A	A	A	A	A	A		B	A	A							Glycols	A	A	A	A	A	A		A	A	A	AB						
Ferrous Sulfate	A	A	A	A	A	A		A	A	A	A	AB	A	C	B	A	Glyoxal								A									
Fish Solubles	A	B		A	A												Gold Monocyanide								A	A					A			
Fluoboric Acid	A	A		A	A	A	B	A	A	B	A	A		B		X	Grape Juice	A			A	A			A	A					A			
Fluorine Gas (Wet)	A	B	A	A	C	A		A	A	X	A	A					Grape Sugar	A	A	A	A	A	A		A	A	A							
Fluorine Liquid		X	B	C	X	A		C	B	X				X		X	Grease		A	A	A	A	A		X	A	B	A	A	A	A			
Fluosilicic Acid 25%	A	A	A	A		A		A	A	A	B	A	X	B	C	X	Green Liquor	A	A	A	A	A	A		A	A	B	A						
Formaldehyde 35%	A	A	A	A	A	A		A	A							B	Helium			A					A	A	A			A				
Formaldehyde 50%	A	A	A	A	A	A		X	B								Heptane	A	B	A	A	A	A		X	A	A	A	A	A	A			
Formaldehyde	A	A	A	X	B	A	A	B	B	B	B	A	A	A	B	A	Hexane	A	B	A	X	X	A	A	X	A	A	A	A	A	A			
Formic Acid	A	A	A	A	A	A	B	A	X	C	A	AB	B	B	B	C	Hexene			A					X	A	A							
Freon 11	A	A	A	X	X	A		X	B	B	A	A	A	A	A		Hexyl Alcohol	A	A	A	A	A	A		B	A	A	A	A	A	A		A	
Freon 113	B	X	A	A	B	C	A	X	B	A	A	A	A	A	A		Honey	A	A	A	A	A	A		A	A	A			A				
Freon 114			A	A	A	A		C	A	A			A				Hydraulic Oil (Synth.)	X				C			A	C	A	A	A	A				
Freon 12 (Wet)		A	A	B	C			B	A	A					X	A	Hydraulic Oil			A			A	X	A	A	A	A	A					
Freon 12	A	A	A	C	C	A		A	B	B	A	AB	A	A	A		Hydrazine	X	X	A	X	X	X		A	X	C			A	A			
Freon 22	X	A	A	X	X	A		B	X	X			A	A	A		Hydrobromic Acid 20%	A	A	A	A	A	A		A	A	X			X	X	A		
Freon TF																	Hydrobromic Acid 50%	A	B	A	A	A	A		A	A	X			X	C	X	X	
Fructose	A	A	A	A	A	A		A	A	A	A	A	A	A	A		Hydrobromic Acid	A	B	A	A	A	A		A	A	X	A	X	X	X	A		
Fruit Juice	A	A	A	A	A	A		A	A	A	A	A	A	A	A		Hydrochloric Acid 10%	A	A	A	A	A	A		A	A	B			X		X	C	
Fruit Pulp	A	A		A	A	A		A									Hydrochloric Acid 20%	A	A	A	A	A	A		A	A	B			X	X	X	C	
Fuel Oil		B	A	B	C	A		X	A	A	A	A	A	A	A		Hydrochloric Acid 25%	A	A	A	A	A	A		A	A	C			X		X		
Fumaric Acid			A					A	A			A					Hydrochloric Acid 37%	A	A	A	A	A	A		A	C	A	C			X	X	X	C
Furan			A					X	X		B						Hydrochloric Acid	A		A	A		A		A	A		B	X	X	A			
Furfural (Ant Oil)	X	C	A	X	X	B		B	X	X	AB	B	AB	A	A		Hydrocyanic Acid 10%	A	A	A	A	A	A		A	A	B			X	X			
Furfuryl Alcohol			A			B		C	X				A				Hydrocyanic Acid	A	A	A	A	A	A		A	A	B	A	AB	A	A	B	A	
Gallic Acid	A	A	A	A	A	A		A	A	A	B	B	A	A	B		Hydrofluoric Acid 10%	A	A	A	A	C	A		A	A	B			X		X		
Gas, Natural	A	A		A	A	A		X	A	A	A	A					Hydrofluoric Acid 20%	A	A	A	A	C			A	A	X			X	X	X	X	
Gasoline, Leaded	X	X	A	A	A	A	A	X	B	A	A	A	A	A	A	X	Hydrofluoric Acid 30%	A	A	A	A	C	A		A	A			X		X			
Gasoline, Sour	B	X	A	A	A	A		X	A	A	A	X	A	A	A	X	Hydrofluoric Acid 40%	C	A	A	B	C	A		A	A			X		X			
Gasoline, Unleaded	X	X	A	C	C	A	A	X	B	A	A	A	A	A	A	X	Hydrofluoric Acid 50%	C	A	A	X	X	B	A		A	A	C			X	X	X	
Gelatin	A	A	A	A	A	A		A	A	A	A	A	A	A	A		Hydrofluoric Acid 65%	C		A					B	A	X			X		X		
Gin	A	A	A	A	A	A		A	A								Hydrofluoric Acid 75%	C	A	A	X	X	A		X	A	X	A	A	X	X	X		
Glucose	A	A	A	A	A	A		A	A	A	A	A	A	A	A		Hydrofluosilic Acid	A	A	A	A	A	A		A	A	A	B	A	X	X	X	A	
Glue	A	A	A	A	A	A		B	A	A	A	A	A	A	A	A	Hydrofluosilicic Acid 20%	A	A	A	A	A			A	A	B			X	X	X		
Glycerine	A	A	A	A	A	A		A	A	A	A	A	A	A	A		Hydrogen Chl. Gas Dry	A				A					A	A	A			X		

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Chemical Resistance Guide, CONTINUED

CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fibrelac™)	PVDF	Ureter® (GF 40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel®	18-8 SS	316 SS	416 SS	Titanium	CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fibrelac™)	PVDF	Ureter® (GF 40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel®	18-8 SS	316 SS	416 SS	Titanium	
Hydrogen Cyanide	A	A	A	A	A	A	A	A	B	A	B	A				C	Latex		A	A				B	A	B	A			A	A			
Hydrogen Fluoride	X	A		X	X	A				B	AB	AB				C	Lauric Acid	A	A	A	A	A	A											
Hydrogen Peroxide 10%	A	A	A	A	A	A			A							C	B	C	Lauryl Chloride	A	A	A	A	A	A									
Hydrogen Peroxide 30%	A	C	A	A	A	A	A	B	A	X						B	B	B	Lead Acetate	A	A	A	A	A	A	A	C	B	AB	A	B	B	B	A
Hydrogen Peroxide 5%	A	A	A	A	A	A	A	A									B	Lead Chloride	A	A	A	A	A	A	A	A								
Hydrogen Peroxide 50%	A	A	A	B	C	A		C	A	X							C	Lead Nitrate	A	A	A	A	A		A	A	A	B	B	C		B		
Hydrogen Peroxide 90%	X	X	A	X	C	A		C	B	X							X	Lead Sulfate	A	A	A	A	A	A	A	A								
Hydrogen Peroxide		A	A	A	A	A		B	A	C	A	AB	AB	B	B	B	Lemon Oil	A	X	X	A	A	A					A						
Hydrogen Phosphide	A	A		X	C	A				C							Ligroin	X	C		X	X	A	C	A	A	A	A	A	A				
Hydrogen Sulf. (Aq. Sol.)	A	A	A	A	A		A	C	C					A	C	A	Lime - Sulfur Solution	A	A		A	A	A			X					B			
Hydrogen Sulfide (Dry)	A	A	A	A	A	A		A	A	A	A	B	C	A	C	C	Lime															(See Calcium Oxide)		
Hydrogen Sulfide	A	A	A	A	A	A		A	A		A	BC	AB			C	Linoleic Acid	A	A	A	B	C	A	X	B	B	A	A	A	A	A			
Hydrogen	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A	Linseed Oil	A	A	A	A	A	A		B	A	A	A	A	A	A			
Hydroquinone	A	A	A	A	A	A		A	A	X	B	A	C				Lithium Bromide			A	A	A	A		A	A	AB	AB						
Hydroxide Alum	A	A	A	A	C	A	A	A	C	A				A	A	A	Lithium Chloride	A			A						AB	A	A		X			
Hydroxyacetic Acid 70%	A			A	A			A	A	A							B	LPG		A							A	A	A					
Hydroxyacetic Acid	A							A	A								A	Lubricants		A	A	A	A		A	A				A	A	A		
Hydroxylamine Sulfate	A	A		A	A	A		A									A	Lubricating Oil	A	A	A	A	A	A		A		A	A	A		A		
Hypochlorous Acid	A	A	A	A	A	A		B	B	X	A		X	X			Lye Solution										A	A	A					
Ink		A				A			A	A	AC	A	A				Machine Oil	A	A	A	A	A	A		A									
Iodine Solution	A	C	A	X	X	A	A	A	C	A	A	B	X	X	A		Magnesium Acetate			A					X	X								
Isobutyl Alcohol			A			A	A	A	B	A	A		A			A	Magnesium Carbonate	A	A	A	A	A	A		B	A	A	AB	A	AB	A	A		
Isooctane	A	A	A	A	A	A		X	A	A	A	A	A				Magnesium Chloride	A	A	A	A	A	A		A	A	A	A	A	X	B	B	A	
Isophorone	X			X	X		X	X		A							Magnesium Citrate	A	A	A	A	A	A		A	A								
Isopropyl Acetate			A					B	X	X	B	AB		B			Magnesium Hydroxide	A	A	A	A	A	A		A	A		A	A	A				
Isopropyl Alcohol	A	A	A	A	A	B		A	A	B	A	AB	AB	A		A	Magnesium Nitrate	A	A	A	A	A	A		B	A	A	A	B	AB	A	A	A	
Isopropyl Ether	X	C	A	X	X	A		X	X	B	A	A		A			Magnesium Oxide	A		A					A	A	A	AB		A	B			
Jet Fuel JP-3		A	A					X	A	A	A	A	A	A		A	Magnesium Sulfate (Epsom Salts)	A	A	A	A	A	A		C	A	A	A	A	A	A	A	A	
Jet Fuel JP-4	A	C	A	A	A	A		X	A	B	A	A	A	A		A	Maleic Acid	A	A	A	A	A	A		C	A	X	A	AC	B	A	A	A	
Jet Fuel JP-5	A	C	A	A	A	A		X	A	A	A	A	A	A		A	Maleic Anhydride									A	X	A						
Kerosene	A	A	A	A	A	A		X	A	A	A	A	A	A		A	Malic Acid	A	A	A	A	A	A		X	A	A	A	A	A	A	B	A	
Ketones	X	A	A	X	X	A		C	X	X	A	A	A	A		A	Manganese Sulfate	A	A	A	A	A			A	A	A	A						
Kraft Liquor	A	A		A	A	A											Mash										A	A	A		A			
Lacquer Thinner		B	A	C	C			A		X	A	A	A	A		A	Mayonnaise		A	A					A	A	A	AC	A	A				
Lacquer		A	A					X	X	X	A	A	A	A			Melamine										C			X				
Lactic Acid	A	A	A	A	A	A		B	B	B	A	AB	A	A		C	B	Mercuric Chloride	A	A	A	A	A	A		A	A	A	AB	X	X	X	X	A
Lard Oil	A	A	A	A	A	A		C	A									Mercuric Cyanide	A	A	A	A	A	A		B	A	A	A	X	A	A	X	A
Lard	A	A	A	A	A	A		C	A									Mercuric Nitrate	A		A					A	A						A	

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Chemical Resistance Guide, CONTINUED

CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fiberc [™])	PVDF	Uitem [®] (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy [®] C	Monel [®] C	18-8 SS	316 SS	416 SS	Titanium
Mercuric Sulfate	A	A	A	A	A	A	A	A	A							
Mercurous Nitrate	A	A	A	A	A	A	A			X	A					
Mercury	A	A	A	A	A	A	A	A	A	B	A	A	A	A	B	
Methacrylic Ac. Glacial			X													
Methane Sulfonic Ac.		A			A											
Methane	A	A	A	A	A	A	C	A	A	A	A	A	A			
Methanol (Methyl Alcohol)	X	A	A	A	A	A	A	X	A	A	AB	A	A			A
Methoxyethyl Oleate			A	A												
Methyl Cellosolve	X	A	X	X	A		B	X	X	A	A	AC				
Methyl Acetate	X	B	A	X	X	A	B	X	X	AB	A	A				
Methyl Acetone			A					X	X	AB	A	A				
Methyl Acrylate			A		A		B	X	X	AB	A	A				
Methyl Alcohol	X	A	A	A	A	A	A	X	A				A			A
Methyl Benzene							(See Toluene)									
Methyl Bromide	X	X	A	X	X	A	C	A	X	AB	A					
Methyl Butanol			A					B	A							
Methyl Butyl Ketone			A				B	X	X			A				
Methyl Chloride	X	X	A	X	X	A	C	C	C	A	A	A	B	A		
Methyl Chloroform	X	C	A	X	X	A	X	B		A	C					
Methyl Ether			A				C	C	B	C	C	C				
Methyl Ethyl Ketone	X	C	A	X	X	X	C	A	X	X	A	A	A	A		A
Methyl Formate	X						A	X		AB	A					
Methyl Isobutyl Alcohol									X							
Methyl Isopropyl Ketone	X	B	A	X	X	A	C	X	X		A	A				
Methyl Isobutyl Carbinol			A				A	A								
Methyl Isobutyl Ketone	X	C	A	X	X	A	B	X	X			A		A		
Methyl Methacrylate	X	A	A			C	X	X	X		C					
Methyl Propanol			A				B	A	A							
Methyl Salicylate	A	A		A	A	A										
Methyl Sulfate	A	A		B	C	A										
Methylamine	X	X	A	X	X	C	A		B			A				
Methylene Bromide				X	X	X										
Methylene Chloride	X	X	A	X	X	C	X	B	X	A	A	AC	A	B	A	
Methylene Iodine			A	X	X	C		A								
Methylhexane			A				X	A	A							
Methylisobutyl Carb.	A	A		A	A	A	A	A								
Methylmethacrylate			A			A	X	X								
Methylsulfuric Acid	A	A	A	A	A	A										

CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fiberc [™])	PVDF	Uitem [®] (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy [®] C	Monel [®] C	18-8 SS	316 SS	416 SS	Titanium
Milk	A	A	A	A	A	A	B	A	A	A	A	BC	A	A	A	
Mineral Oil	A	A	A	B	A	A	A	X	A	A	A	A	A			
Molasses	A	A	A	A	A		C	A	A	A	A	A	A	A		
Monochlorobenzene		B	A			A	X	A		A	A	AB				
Monochloroacetic Acid	A	B	A	A	A	A	C	B		A	B			X		
Monoethanolamine	X		A	X	X	X		A	A	A	AB	A	A			A
Morpholine			A								A		A			
Motor Oil	A	C	A	A	A	A	A	X	A	A	A	A				
Mustard	A	A		A	A			A	B	A	BC	A	A			
Naphtha	A	A	A	A	A	A	A	X	A	B	A	A	A	A	A	A
Naphthalene	X	B	A	X	X	A	X	B	X	A	A	B	B	A	A	
Natural Gas	A	A		A	A	A	X	A	A	A	A	A				
Neon			A				A	A	A			A				
Nickel Acetate	A	A	A	A	A	A	A	X	B		A	C				
Nickel Chloride	A	A	A	A	A	A		A	A	B	A	AB	AC	B	X	A
Nickel Cyanide	A			A	A											
Nickel Nitrate	A	A	A	A	A	A		B	A	A	B	B	A		B	
Nickel Sulfate	A	A	A	A	A	A		A	A	A	AB	AB	A	C	B	
Nickel	A	A	A	A	A		A	A	A							
Nicotine Acid	A	A	A	A	A	A		A								
Nicotine	A	X	A	A	A	C										
Nitrate Alum	A	A	A	A	A	A		A	B	A						A
Nitric Acid 10%	A	A	A	A	A	A	A	B	A	X	B	X	A	A	B	A
Nitric Acid 20%	A	A	A	A	A		A	X	A	X	B	X	A		B	
Nitric Acid 30%	A	A	A	A	A	B	A	B	A	X	B	X	A		B	
Nitric Acid 40%	A	C		A	A	B	A	X	A	X	B	X	A		C	
Nitric Acid 50%	A	C	A	A	A	B		X	A	X	B	X	A		X	
Nitric Acid 70%	A	X	A	X	X	X	A	X	C	X	B	X	A		X	
Nitric Acid Concentr.	A	X	A	X	X	X	X	C	X	B	X	A			C	
Nitric Acid Fuming	X	X		X	X	X										C
Nitrobenzene	X	C	A	X	X	A	C	C	C	C	A	AB	B	B	B	A
Nitroethane			A			A	A	X				A				
Nitrogen Dioxide			A			A										
Nitrogen			A				A	A	A	A	A	A				A
Nitroglycerine				X			A			A	A	A				
Nitromethane			A			A	B			A	A					
Nitrous Oxide	A	A	A	A	A	A		A	A	A	X	C				
Oceonol	A	X		A	A	A										

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Butterfly valves, Solenoid valves, Diaphragm valves and all other valves with elastomers fully exposed to process media should derate elastomer scores by one level (i.e. "C" becomes "D", "D" becomes "X").

Chemical Resistance Guide, CONTINUED

CHEMICALS	CPVC	PP	PiPE	PVC	PVC-GF (Fibertec™)	PIDF	Ultem® (GF 40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS	316 SS	416 SS	Titanium	CHEMICALS	CPVC	PP	PiPE	PVC	PVC-GF (Fibertec™)	PIDF	Ultem® (GF 40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS	316 SS	416 SS	Titanium
	Octane			A		A		X	A										Peracetic Acid 40%	X	X	A	X	X	A	B	A						
Octyl Acid			A		A				C								Perchloric Acid 10%	A	A	A	A	A	B	A	X						B		
Octyl Alcohol								A	B	A		A	A	A	A		Perchloric Acid 70%	X	A	X	X	A	X	A	A	X					X		
Octylamine			A					X	C								Perchloroethylene	X	C	A	X	X	A	X	A	X	A	A	AB	A			
Oils, Crude Sour	X														C		Perphosphate	A	A	A	A	A		A	A								
Oils	X	A		A	A	A											Petrolatum	A	A	A	A	A	C	A	A	A	A	A	A	A			
Oils, Aniline		A	A	X	X		B	A	X				A	A			Petroleum (Sour)			A	A		X	A	A						C		
Oils, Anise														A			Petroleum Oils	A	B	A	A	A	X	A	A						A		
Oils, Bay								A					A				Phenols 100%	A	A	A	X	X	A	X	C	B	X	A	B	A	A	C	
Oils, Bone								A	A				A				Phenylacetate			A			B	X	X								
Oils, Castor				A			B	A	A				A				Phenylhydrazine Hydrochl	A	X		X	X	A										
Oils, Cinnamon				A				A					A				Phenylhydrazine	X	X	A	X	X	A	C	C	X							
Oils, Citric		A						A	A				A				Phosgene Gas	X	C		X	X	A	A	X	X							
Oils, Clove		B						A					A				Phosgene Liquid	X	X		X	X	C	A	X	X							
Oils, Coconut		A						A	A	A			A				Phosphate Alum			A			A	A	A								
Oils, Cod Liver		A						A	A	A			A				Phosphoric Acid 10%	A	A	A	A	A	A	A	A	C	A	A	A	A	B		
Oils, Corn	X	A					C	A	A				A				Phosphoric Acid 100%	A	A	A	A		B	A	X	A	A	B	B				
Oils, Cotton Seed	X	A	A	A	A		C	A	A				A				Phosphoric Acid 20%	A	A	A	A	A	A	A	C	A	A						
Oils, Creosote	X			X			X	A	B				A				Phosphoric Acid 40%	A	A	A	A	A	A	B	A	X	A	A	A	A			
Oils, Diesel Fuel		A		A			X	A	A				A				Phosphoric Acid 50%	A	A	A	A	A	A	A	A	C	A	A	B	B			
Oils, Fuel			A	A	A		X	A	B				A	A			Phosphoric Acid 80%	A	A	A	A	A	A	A	A		A	AB					
Oils, Linseed	X	A		A	A		X	A	A				A				Phosphoric Acid 85%	A	A	A	A	B	A	A	A	C	A	AB	B	C			
Oils, Mineral		A		A	A		X	A	A	A	A	A	A	A			Phosphoric Acid Crude			A			B	A	C			C	C				
Oils, Olive	X	A	A	A	A		B	A	A	A	A	A	A	A			Phosphorous Oxychloride			A							X						
Oils, Pine	X		A	A	A		X	A	C		A	A	A				Phosphorous Red	A	A	A	A	A											
Oils, Silicone		A		A				A	A				A				Phosphorous Trichloride	X	C	A	X	X	A	C	C	X	A	A	A	A			
Oils, Vegetable	X	A		A	A	A		A	A	A	A	A	A	A			Phosphorous Yellow	A	A	A	A	A											
Oleic Acid	B	A	A	A	A	A	C	B	B	A	A	A	A	B			Photographic Developer	A	A		A	A	A		A	A	A	C	A	A			
Oleum	X	X	A	X	X	X	X	X	X				A				Photographic Solutions	A	A	A	A	A		A	A	AB	AC	C					
Orange Extract		A	A		A												Phthalic Acid	X	X	A	X	X	A	A	A	A	X	C	B				
Oxalic Acid	A	A	A	A	A	A	A	A	B	A	B	A	B	C	C		Phthalic Anhydride	X	X	A	X	X		A	A	C	A	A	B	B	A		
Oxychloride Alum	A	A		A	A	A		X									Pickle Brine	A	A		A	A	A										
Oxygen Gas	A	A	A	A	A	A	A	A	C	A	A	A					Pickling Solutions	A	A	A	A	A	C	B	X								
Ozone	B	C		B	B	A	A	A	X	A	A	A					Picric Acid	C	A	A	X	X	A	C	A	B	B	X	AB	A	B		
Palmitic Acid 10%	A	A	A	A	A	A	B	A	A								Plating Solutions, Antimony	A	A	A	A			A	A	A	A		A	A			
Palmitic Acid 70%	A	A	A	X			B	A	A								Plating Solutions, Arsenic	A	A		A	A		A	A	A		A	A				
Paraffin	A	A	A	A	A	A	X	B	A	A	A	A	A	A			Plating Solutions, Brass	A	A	A	A	A	A	A	A	A		A	A				
Pentane			A				X	A	A	A	A	A	C				Plating Solutions, Bronze	A	A	A	A			A	A	A		A	A				

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Chemical Resistance Guide, CONTINUED

CHEMICALS												CHEMICALS																				
	CPVC	PP	PTFE	PVC	PVC-GF (Fiberc®)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C		Monel® C	18-8 SS	316 SS	416 SS	Titanium	CPVC	PP	PTFE	PVC	PVC-GF (Fiberc®)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel® C	18-8 SS	316 SS	416 SS
Silver Nitrate	A	A	A	A	A	A	C	A	C	AB	X	B	B	B	A	Sodium Nitrate	A	A	A	A	A	A	A	B	C	AB	B	A	B	B	A	
Silver Salts		A	A	A	A	A	A	A								Sodium Nitrite	A	A	A	A	A	A		A	A	AC	BC	A	B			
Silver Sulfate	A	A	A	A	A	A	A	A	C						A	Sodium Palmitate	A	A	A	A	A	A										
Soap Solutions	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	Sodium Perborate	A	A	A	A	A	A		A	A	C	A	A	AB	C	B	
Soda Ash			A				A	A	A							Sodium Perchlorate	A	A	A	A	A	A				B	A					
Sodium Acetate	A	A	A	A	A	A	A	C	C	A	A	AB	B	B	A	Sodium Peroxide	A	A	A	A	A	A		B	A	C	AB	AC	A	A	A	
Sodium Aluminate	A	A	A	A	A	A	A	A	A	AB	AB	AB	A	C	B	Sodium Phosphate Acid	A	A	A	A	A	A		A	A	A	A	A	B			
Sodium Benzoate	A	A	A	A	A					A	AB					Sodium Phosphate Alkaline	A	A	A	A	A	A		A	A	A	A	A				
Sodium Bicarbonate	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	Sodium Phosphate Neutral	A	A	A	A	A	A		A	A	A	AB	AC				
Sodium Bichromate	A	A	A	A	A	A	A	A		B	AC			B		Sodium Polyphosphate			A					A	A	B			A	A		
Sodium Bisulfate	A	A	A	A	A	A	A	A	B	B	AB	X	A	A	A	Sodium Silicate	A	A		A	A	A		A	A	A	A	AB	B	B	A	
Sodium Bisulfite	A	A	A	A	A	A	A	A	A	B	B	C	A	C	A	Sodium Sulfate	A	A	A	A	A	A		A	A	A	A	A	B	B	A	
Sodium Borate	A	A	A	C	C	A	A	A	A	A	AB	A		A		Sodium Sulfide	A	A	A	A	A	A		A	A	C	A	AB	AC	B	X	A
Sodium Bromide	A	A	A	A	A	A	A	A		AB	AC	A		C		Sodium Sulfite	A	A	A	A	A	A		A	A	A	B	A	C	B	A	
Sodium Carbonate	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	Sodium Tetraborate				A				A	A	A	AB	A	A	A		
Sodium Chlorate	A	A	A	A	A	A	A	A	C	A	X	BC	B	B	A	Sodium Thiocyanate	A	A	A	A	A	A		A	A							
Sodium Chloride	A	A	A	A	A	A	A	A	A	A	A	A	C	B	A	Sodium Thiosulfate	A	A	A	A	A	A		A	A	B	A	AB	A	A	A	
Sodium Chlorite	X	X	B	X	X		X	X								Sodium	A	A	A	A	A	A		A	A							
Sodium Chromate	A	A	A					B	A	A	AB	AC	A	B		Sorghum								A	A				A			
Sodium Cyanide	A	A	A	A	A	A	A	A	A	A	X	A	A	A	A	Soy Sauce								A	A				A			
Sodium Dichromate	A	A	A	A	A	A	A	A								Soybean Oil	A	A	A	A	A	A		A	A		A	AB	A			
Sodium Ferricyanide	A	A	A	A	A	A	A	A		A	AC	C		B		Stannic Chloride	A	A	A	A	A	A		A	A	A	AB	X	X	A	X	A
Sodium Ferrocyanide	A	A	A	A	A	A	A	A		A	A					Stannic Salts		A	A	A	A	A		A	A							
Sodium Fluoride	A	A	A	A	A	A	A	B	C	A	A	B		C	A	Stannous Chloride	A	A	A	A	A	A		B	B	C	B	C	X	C	C	A
Sodium Hydrosulfide											A	A				Starch	A	A	A	A	A			A	A	A		A	AB	A		
Sodium Hydrosulfite			A	C				A		A	A					Stearic Acid	A	B	A	A	A	A		C	A	B	A	A	A	B	B	A
Sodium Hydroxide 15%	A	A	A	A	A	A	A	C	A	A			B	B	A	Stoddard Solvent	X	C	A	X	X	A		X	A	B	A	A	A	A	A	
Sodium Hydroxide 20%	A	A	A	A	A	A	A	C	A	A			B	B	A	Styrene			A				X	C	X		AC	A	A			
Sodium Hydroxide 30%	A	A	A	A	A	A	A	C		A			B	B		Succinic Acid	A	A	A	A	A	A		A	A		A	AC	B			
Sodium Hydroxide 50%	A	A	A	A	A	A	A	C	X	A			B	C	A	Sugar Solutions	A	A	A					A	A				A	A		
Sodium Hydroxide 70%	A	B	A	A	A	B	A	X	X	A			X	A		Sulfamic Acid	X	X		X	X	X				B						
Sodium Hydroxide Conc	A	A	A	A	A	A	A	B	X	A	AB	A		C		Sulfate Liquors	A	A		A	A	A		A	A	A	A	B	X	C	A	
Sodium Hypochlorite 20%	A	C	A	A	A	A	X	A	C	A			C	A		Sulfated Detergents	A	A		A	A	A										
Sodium Hypochlorite 5% (Bleach)	A	C	A	A	A	A	B	A	X	AB	X	X	B	X	AC	Sulfite Liquor	A	A	A	A	A	A		A	A	B	A	C	C		X	
Sodium Hypochlorite	A	C	A	A	A	A	X	X	X	AB	X	X		X		Sulfur 10%	A	A	A	A	A		X	A	C	A		A	C		A	
Sodium Hyposulfate			A										A			Sulfur Chloride	A	C	A	A	A	A		X	A	X	A	C	X	X	C	
Sodium Metaphosphate	A	C	A	A	A	A	A	A	A		A	A	A			Sulfur Dioxide Dry	A	A	A	A	A	A		A	A	X	B		A	B	B	
Sodium Metasilicate	A	A	A	A	A	A	A	A	A	A	A	A	A			Sulfur Dioxide Wet	A	A	A	X	X	A		A	A	X	AC	X	A		B	

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Chemical Resistance Guide, CONTINUED

CHEMICALS															CHEMICALS																
	CPVC	PP	PTFE	PVC	PVC-GF (Fibartec™)	PVDF	Ultem® (GF 40%)	EPDM	FPM	Nitrile	Hastelloy® C	Monel®	18-8 SS	316 SS		416 SS	Titanium	CPVC	PP	PTFE	PVC	PVC-GF (Fibartec™)	PVDF	Ultem® (GF 40%)	EPDM	FPM	Nitrile	Hastelloy® C	Monel®	18-8 SS	316 SS
Sulfur Dioxide	X	A	X	C		A	C	X				A		A		Trichloroacetic Acid	A	C	A	A	A	A	X	X	X	A	BC	X	X	X	
Sulfur Slurries	A	A	A	A	A											Trichloroethane			A	X	X	X	A	X	A	C		A		A	
Sulfur Trioxide Dry	C	X	B	C	X	C	C	C		AB	A	C	B		Trichloroethylene	X	B	A	X	X	A	X	A	C	A	B	A	A	A	B	
Sulfur	A	X	A	A	A	C	A	C	A	BC		A			Trichloropropane			A	X				A	A	A	A	A	A	A		
Sulfuric Acid 10%	A	A	A	A	A	A	B	A	C			C	X	A	Tricresyl Phosphate			A	X	X		A	B	X	A		A	A		B	
Sulfuric Acid 100%	A	X	B	X	X	C	X	C	X			C	C	X	Triethanolamine		C		B	C	C	A	X		A	A	A				
Sulfuric Acid 30%	A	A	A	A	A	A	A	A	C			X	X	C	Triethyl Phosphate	A	A	A	A	A	A	C	A	A				A			
Sulfuric Acid 50%	A	A	A	A	A	B	A	C				X	X	C	Triethylamine	A	X		A	A	C	A		A	A		A	A			
Sulfuric Acid 60%	A	A	A	A	B	B	A	X				X	X	C	Trimethylpropane	A	A	A	A	A	A										
Sulfuric Acid 70%	A	C	A	A	A	A	A	C				X	X	C	Trisodium Phosphate	A	A	A	A	A	A		A	A	A			A	B		
Sulfuric Acid 80%	A	A	A	X	X	A	A	C				X	X	X	Turbine Oil	A	B	A	A	A		X	A	B		A					
Sulfuric Acid 90%	A	C	A	X	X	A	A	C				X	X	X	Turpentine	A	B	A	X		A	A	C	A	C	A	AB	AB	A	B	
Sulfuric Acid 95%	A	X	A	X	X	A	X	X				X	X	X	Urea	A	A	A	A	A	A	A	A	A	C	A					
Sulfuric Acid 98%	A	X	B	X	X	A	X	X				X	X		Urine	A	A	A	A	A	A		A	A	A		A		A		
Sulfurous Acid	A	A	A	A	A	C	A	X	B	X	BC	B	C	A	Vanilla Extract		A	A		A											
Sulfuryl Chloride			A	A											Varnish		A	A			A	X	A	B	A	A	A	A	A		
Syrup	A	A	A	A			A	A				A			Vaseline	A	A	A	X	X	A	X	A	A	A	A	A				
Tall Oil	A	A	A	A	A	X	A	A	A	A	C		X		Vegetable Oil	C	A	A	A	A	A		A	A	A	A	A	A	A		
Tallow		A	A		A	A	A	A		B	A	A			Vinegar	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	
Tannic Acid	A	A	A	A	A	B	A	C	A	A	AC	C	B	A	Vinyl Acetate	X		A	X	X	A	X	B	X	X	A	AC				
Tanning Liquors	A	A	A	A	A	B	A	C	A			A		A	Vinyl Chloride			A				C	A	X	A	B	B		A		
Tar	X	B	A	X	X	X	A	C	A	A	A		B		Vinyl Ether			A					X	B							
Tartaric Acid	A	A	A	A	A	B	A	C	A	A	A	B	B	A	Water Potable	A	A	A	A	A	A		A	A	A	A	A	A	A	A	
Tertiary Butyl Alcohol	A	A	A	A	A	B	A								Water Salt	A	A	A	A	A	A		A	A	A	B	AB	A	C		
Tetrachlorethane	A	A	X	X		X	A	X	A	A	AB	A		A	Water Sewage	A	A	A	A	A	A		A	A							
Tetrachloroethane			A	X	A	X	A		A	A	A				Water, Acid Mine	A	A	A	A	A	A		A	A	A			A	C		
Tetraethyl Lead	A	A	A	B	C	A	X	B	C		A				Water, Deionized	A	A	A	A	A	A		A	B	A	A	A	A			
Tetrahydrofuron	X	B	A	X	X	B	X	X	X	A	B		A		Water, Demineralized	A	A		A	A	A		A	A	A	A	A				
Tetralin	X	X	A	X	X	A	X	A	X						Water, Distilled	A	A	A	A	A	A		A	A	A	A	A	A	A	A	
Thionylchloride	X	X	A	X	X										Weed Killers									A	B			A			
Thread Cutting Oils	A	A		A	A	X			A	A					Whey									A	A			A			
Titanium Tetrachloride	X	X	A	X	X	X	A	C	A	B	A				Whiskey	A	A	A	A	A	A		A	A	A	AB	A	A			
Titanous Sulfate	A	A	A	A	A										White Acid			A		A											
Toluene (Toluol)	X	C	A	X	X	B	C	X	C	X	A	A	A	A	White Liquor	A	A	A	A	A	A		A	A	B	A	A		A		
Tomato Juice	A	C	A	A	A	A		A	A	AB	A	A	C		Wines	A	A	A	A	A	A		A	A	A	AB	A	A	C		
Toxaphene-Xylene	X	X		X	X	A									Xenon			A					A	A		A					
Transformer Oil	A	A	A	A	A	X	A	A	A	A	A				Xylene	X	X	A	X	X	A	X	X	B	X	A	A	A	A		
Tributyl Phosphate	X	C	A	X	X	A	A	X	X						Xylol	X	X	A	X	X	A	X	X	A	C						

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Chemical Resistance Guide, *CONTINUED*

CHEMICALS	CPVC	PP	PTFE	PVC	PVC-GF (Fiberglass)	PVDF	Ultem® (GF-40%)	EPDM	FPM	Nitrile (Buna N)	Hastelloy® C	Monel®	18-8 SS	316 SS	416 SS	Titanium
Yeast	A	A			A		A	A								
Zeolite			A				A	A	B							
Zinc Acetate	A	A	A	A	A		A	C	B	A						
Zinc Carbonate	A	A					A	A	B	B	C			B		
Zinc Chloride	A	A	A	A	A	A	A	A	A	B	X	B	C	A		
Zinc Chromate		A														
Zinc Nitrate	A	A	A	A	A		A	A								
Zinc Salts		A	A	A	A		A	A	A							
Zinc Sulfate	A	A	A	A	A		A	A	A	A	B	A	A	A		
Zirillite		A					A	C	B							

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