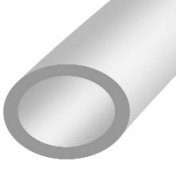


Chemical Compatibilities

Tubing & Fitting Chemical Resistance Code

	A	Excellent (No Effect)
	B	Good (Minor Effect)
	C	Fair (Moderate Effect)
	D	Poor (Severe Effect)
	1	Satisfactory to 72° F
	2	Satisfactory to 120° F

48 Hour Chemical Compatibility Test

Welch® brand tubing is made of the highest quality materials to meet your application needs. To ensure the tubing material is compatible with your application solutions we recommend you conduct a quick and simple 48-hour compatibility test.

- 1) Cut a small sample piece of tubing.
- 2) Weigh, measure, and visually inspect the sample and record results.
- 3) Place tubing in a sample jar with a lid.
- 4) Place sample with tubing aside for 48 hours. If process solution is elevated above ambient, store sample jar at processing temperature.
- 5) After 48 hours, remove tubing, weigh, measure, and visually inspect.
- 6) If no visible changes, try in pump.

CAUTION

The following chemical compatibility data is for reference only. The data has been compiled from outside sources provided by material suppliers and resin manufacturers. The particular conditions of your use and application of our products are beyond our control. Thus, it is imperative that you test our products in your specific application to determine their ultimate suitability. All information is provided without implied or expressed warranty or guarantee by Welch Rietschle Thomas, or the resin and feedstock manufacturers. Welch Rietschle Thomas assumes no liability with respect to the accuracy or completeness of the information contained herein and none of the information provided constitutes a recommendation or endorsement of any kind by Welch Rietschle Thomas.

DANGER

Variations in temperature, pressure, and concentrations can cause equipment to fail, even though it passed an initial test.

Chemical	Tubing					Fittings		
	Silicone	Santoprene®	PVC	Viton®	Nylon	Kynar®	PVDF	Polyethylene
Acetaldehyde	A	C	D	D	A	D	C	C
Acetamide	B	B	D	B	A	C	A	A
Acetate Solvent	C	D	D	D	A	A	A	A
Acetic Acid	C	C	D	B	—	—	—	—
Acetic Acid 20%	B	A	D	B	D	A	A	A
Acetic Acid 80%	B	C	C	B	D	C	A2	A2
Acetic Acid, Glacial	B	D	D	D	B	A1	A2	A2
Acetic Anhydride	C	A	D	D	A1	B1	D	D
Acetone	D	C	D	D	A	D	B1	B1
Acetyl Chloride (dry)	C	D	C	A	B	A2	D	D
Acetylene	B	B	A1	A	A	A	A	A
Acrylonitrile	D	C	B1	D	A1	A1	A	A
Adipic Acid	—	C	A2	A2	—	A2	—	—
Alcohols:Amyl	D	A3	A2	A	—	—	—	—
Alcohols:Benzyl	—	C	D	A	—	—	—	—
Alcohols:Butyl	B	A	A2	A	—	—	—	—
Alcohols:Diacetone	D	D	B1	D	—	—	—	—
Alcohols:Ethyl	B	A	C	A	—	—	—	—
Alcohols:Hexyl	B	A	A2	C	—	—	—	—
Alcohols:Isobutyl	A	A	A1	A	—	—	—	—
Alcohols:Isopropyl	A	B	A1	A	—	—	—	—
Alcohols:Methyl	A	A	A1	C	—	—	—	—
Alcohols:Octyl	B	B	—	B	—	—	—	—
Alcohols:Propyl	A	A	A1	A	—	—	—	—
Aluminum Chloride	B	A	A2	A	B1	A	B2	B2
Aluminum Chloride 20%	B	A	A1	A	D	A	B2	B2
Aluminum Fluoride	B	A	A2	A	A1	A	A2	A2
Aluminum Hydroxide	—	A	A2	A	A1	A	A2	A2
Aluminum Nitrate	B1	A1	B2	A2	A1	A2	—	—
Aluminum Potas. Sulfate 10%	A	A	A2	A	D	B	A2	A2
Aluminum Potas. Sulfate 100%	A	A	A2	A	D	—	A2	A2
Aluminum Sulfate	A	A	A2	A	A2	A	A2	A2
Alums	A1	B	—	A	A	—	—	—
Amines	B	B	D	D	D	—	C1	C1
Ammonia 10%	—	A	B1	D	A	A	C1	C1
Ammonia Nitrate	—	C	B	D	D	A	—	—
Ammonia, anhydrous	C	A	A2	D	A1	A	B2	B2
Ammonia, liquid	—	A	A1	D	B1	A	C1	C1
Ammonium Acetate	—	A	A	A	A	—	—	—
Ammonium Bifluoride	—	D	A2	A	—	A	A2	A2
Ammonium Carbonate	C	A	A2	A	A1	A	B2	B2
Ammonium Chloride	C	B	A2	A	B	A	A2	A2
Ammonium Hydroxide	A	A	A	B	A	A	A1	A1
Ammonium Nitrate	C	B	A2	A	A1	A	A1	A1
Ammonium Persulfate	D	A	A2	A	D	A1	A2	A2
Ammonium Phos., Dibasic	A	A	A2	A	C1	A	A2	A2
Ammonium Phos., Monobasic	A	A	A	A	B	—	A	A
Ammonium Phos., Tribasic	A	A	A	A	B	—	C	C
Ammonium Sulfate	A	A	A2	A	A1	A	A1	A1
Ammonium Sulfite	—	A1	A2	D	A1	—	—	—
Amyl Acetate	D	D	D	D	B2	A2	C1	C1
Amyl Alcohol	D	A3	A2	A	A1	A	B2	B2
Amyl Chloride	D	D	D	B1	C1	A	D	D
Aniline	B	D	C1	A	A2	A1	B2	B2
Aniline Hydrochloride	D	D	B2	A	—	—	—	—
Antifreeze	C	C	A	A	—	—	—	—
Antimony Trichloride	—	—	A2	A2	D	A	B2	B2
Aqua Regia (80% HCl, 20% HNO3)	D	D	C1	B	—	—	—	—
Arochlor 1248	B	D	—	A	A1	—	C1	C1
Aromatic Hydrocarbons	D	D	D	A	—	—	—	—
Arsenic Acid	A	A	A1	A2	C1	A	B2	B2
Asphalt	D	D	A2	A	A	A	A1	A1
Barium Carbonate	—	—	A2	A	A1	A	B2	B2
Barium Chloride	A	A	A1	A	A	A	A1	A1
Barium Cyanide	—	C	D	A	A1	—	B	B
Barium Hydroxide	A	A	A2	A	A1	A	B2	B2
Barium Nitrate	B	A	A	A	A1	—	B1	B1
Barium Sulfate	A	A	B1	A	A1	A	B2	B2
Barium Sulfide	A	A	A2	A	A1	A	B2	B2
Beer	A	A	A2	A	A1	A	A2	A2
Beet Sugar Liquids	A	A	A2	A	A	A	A1	A1
Benzaldehyde	D	D	D	D	A1	A2	A1	A1
Benzene	D	D	C1	A	A1	A2	C1	C1
Benzene Sulfonic Acid	D	A	A	A	—	—	—	—
Benzoic Acid	B	B	A	A	D	A	B2	B2
Benzol	D	D	—	A	D	A	C1	C1
Benzyl Chloride	D	D	—	A2	A2	—	—	—
Bleaching Liquors	B	D	A1	A	C	—	—	—
Borax (Sodium Borate)	B	A	A1	A	—	—	—	—
Boric Acid	A	D	A2	A	B	A	A2	A2
Bromine	D	D	C1	A	D	A	D	D
Butadiene	D	B	C1	B	C1	A	D	D
Butane	D	A	C1	A	A2	A	C1	C1
Butanol (Butyl Alcohol)	B	A	C1	A	B1	A	A2	A2
Butter	B	B	—	A	—	—	—	—
Buttermilk	A	D	A1	A	—	—	—	—
Butyl Amine	B1	D	D	D	A2	A1	—	—
Butyl Ether	D	D	A2	D	A2	A1	—	—
Butyl Phthalate	A1	D	—	C1	A2	B1	—	—
Butylacetate	D	D	D	D	A	B2	C1	C1
Butylene	D	D	A1	A	B1	A	B1	B1
Butyric Acid	D	D	B1	B1	C1	A	D	D
Calcium Bisulfide	C	A	A2	A	—	—	—	—
Calcium Bisulfite	A	A	B	A	A2	A	A1	A1
Calcium Carbonate	A	A	A2	A	A	A	B2	B2
Calcium Chlorate	—	—	B2	A	—	A	—	—

Chemical Compatibilities

Chemical	Tubing					Fittings		
	Silicone	Santoprene®	PVC	Viton®	Nylon	Kynar® PVDF	Polyethylene	
Calcium Chloride	A	A	C	A	A1	A	B2	
Calcium Hydroxide	A	A	B	A	A2	A2	B2	
Calcium Hypochlorite	B	D	B1	A	D	A	B2	
Calcium Nitrate	B1	A2	A2	A2	A1	A2	-	
Calcium Oxide	A	A	B	B	B	A	-	
Calcium Sulfate	-	B	B2	A	D	A	B2	
Cane Juice	A	A	A1	A	-	-	-	
Carbolic Acid (Phenol)	D	D	D	A	D	A1	B1	
Carbon Bisulfide	-	D	D	A	A	-	-	
Carbon Dioxide (dry)	B	B	A2	B	A1	A	C1	
Carbon Dioxide (wet)	B	B	A1	B	A1	A	C1	
Carbon Disulfide	-	D	D	A1	B1	B2	C1	
Carbon Monoxide	A2	B	A2	A	A1	B	B2	
Carbon Tetrachloride	D	D	D	A	D	A2	B1	
Carbon Tetrachloride (dry)	D	D	-	A2	-	A2	-	
Carbon Tetrachloride (wet)	D	D	-	-	-	A2	-	
Carbonated Water	-	A	A	A	A	-	A	
Carbonic Acid	A	D	A2	A	A1	A	B2	
Catsup	-	A	A	A	A	A	-	
Chlorinated Glue	-	D	-	A	-	-	-	
Chlorine (dry)	D	C	D	A	D	A	B	
Chlorine Water	D	D	A2	A	C1	B	B1	
Chlorine, Anhydrous Liquid	D	D	D	A	D	A1	B2	
Chloroacetic Acid	D	D	B1	D	D	A1	C1	
Chlorobenzene (Mono)	D	D	D	A	D	A1	C1	
Chlorobromomethane	D	D	D	A	C	-	-	
Chloroform	D	D	D	A	A	A	C1	
Chlorosulfonic Acid	D	D	D	D	-	-	-	
Chromic Acid 10%	C	D	A2	B	D	A	A2	
Chromic Acid 30%	C	D	A1	A	D	A2	A2	
Chromic Acid 5%	C	D	A2	A	D	A	B	
Chromic Acid 50%	C	D	D	A	D	A2	A2	
Cider	B1	A	A	A	-	-	-	
Citric Acid	A	A	B2	A	A1	A	A1	
Citric Oils	-	D	-	A	-	-	-	
Clorox® (Bleach)	-	B	A	A	A	A	-	
Copper Chloride	A1	A	A1	A	D	A	B	
Copper Cyanide	A	A	A2	A	D	A	B2	
Copper Nitrate	-	A	A2	A	D	A	B2	
Copper Sulfate >5%	A	A	A2	A	D	A	B2	
Copper Sulfate 5%	A	A	A2	A	D	A	B2	
Cream	-	D	-	A	-	-	-	
Cresols	D	D	D	A	D	A2	C1	
Cresylic Acid	D	D	D	A	D	B1	B1	
Cupric Acid	A1	A2	A2	A2	D	-	-	
Cyanic Acid	A1	C	-	A	-	-	-	
Cyclohexane	D	D	D	A	-	-	-	
Cyclohexanone	D	D	D	D	-	-	-	
Detergents	A	B	A	A	A1	A	A1	
Diacetone Alcohol	D	D	D	D	A1	D	B1	
Dichlorobenzene	D	D	D	C	D	A	-	
Dichloroethane	-	D	D	C	A1	A	C1	
Diesel Fuel	D	B	A1	A	A	A	C1	
Diethyl Ether	D	D	D	D	A1	A1	-	
Diethylamine	B	A	D	A	A	D	D	
Diethylene Glycol	B1	A2	C1	A2	A1	A	B2	
Dimethyl Aniline	D	D	D	D	A	A1	-	
Dimethyl Formamide	C	D	D	C	A	D	-	
Diphenyl	D	B	-	A2	-	-	-	
Diphenyl Oxide	C	D	D	A	-	B2	-	
Dyes	-	C	B	A	-	-	-	
Epsom Salts (Magnesium Sulfate)	A	A	A1	A	A1	A	A2	
Ethane	D	B	A1	A	D	A	-	
Ethanol	B	A	C	A	A1	-	B	
Ethanolamine	B	B	D	D	A	C1	-	
Ether	D	D	D	C	A	B1	C1	
Ethyl Acetate	B	D	D	D	A2	D	C1	
Ethyl Benzoate	D	C	D	D	A1	-	D	
Ethyl Chloride	D	D	D	A	A1	A	C1	
Ethyl Ether	D	D	D	D	A1	A2	-	
Ethylene Bromide	D	C	D	A	-	A	-	
Ethylene Chloride	D	D	D	B	A	A	C1	
Ethylene Chlorohydrin	C	A	D	A	D	A	-	
Ethylene Diamine	A	B	D	B	D	B	-	
Ethylene Dichloride	D	D	D	A	A1	A	C1	
Ethylene Glycol	A	A	A	A	A	A	A1	
Ethylene Oxide	D	D	D	D	A1	A	C1	
Fatty Acids	C	C	A	A	A1	A	A	
Ferric Chloride	B	B	A	A	A	A	A1	
Ferric Nitrate	C	A	A	A	A1	A	B2	
Ferric Sulfate	B	A	A	A	A1	A	A2	
Ferrous Chloride	-	A	A	A	D	A	A1	
Ferrous Sulfate	-	-	A	B	D	A	A1	
Fluoboric Acid	-	A	A	B	D	A1	B2	
Fluorine	D	-	D	C	D	A1	C1	
Fluosilicic Acid	-	A	D	B1	D	A1	B1	
Formaldehyde 100%	B	C	A	D	D	A	B	
Formaldehyde 40%	-	B1	A	A	A	A	A2	
Formic Acid	B	A	A1	C	D	A	B2	
Freon 113	D	C	B	B	-	-	-	
Freon 12	D	A	A2	B	-	-	-	
Freon 22	D	A	A	D	-	-	-	
Freon TF	D	A	B	B	-	-	-	
Freon® 11	D	D	A2	B	D	A	C	
Fuel Oils	D	B	A2	A	A1	B	C1	
Furan Resin	D	D	A	D	-	-	-	

Chemical	Tubing					Fittings		
	Silicone	Santoprene®	PVC	Viton®	Nylon	Kynar® PVDF	Polyethylene	
Furfural	D	D	D	D	B	B2	C1	
Gallic Acid	D	B	B	A	A	A1	B2	
Gasoline (high-aromatic)	D	A	A	A	A	A	C1	
Gasoline, leaded, ref.	D	B	B	A1	A2	A	-	
Gasoline, unleaded	D	B	C2	A1	A2	A	-	
Gelatin	A	A	B	A	A1	A	A2	
Glucose	A	A	A2	A	A	A	A2	
Glue, P.V.A.	A	A	C	B	A1	-	A1	
Glycerin	A	A	A	A	A1	A	A1	
Glycolic Acid	A	A	B	A	-	B	A2	
Grape Juice	A	D	A	A	-	-	-	
Grease	D	D	A	A	-	A	-	
Heptane	D	B	C1	A	A	A	B1	
Hexane	D	B	B1	A	B	A	C1	
Honey	A	-	A	A	A	A	B	
Hydraulic Oil (Petrol)	B	A	A	A	A1	A	C	
Hydraulic Oil (Synthetic)	B	A	A	A	A1	A	A	
Hydrazine	B	B	-	A	-	A	-	
Hydrobromic Acid 100%	D	D	A1	A	D	A	B1	
Hydrobromic Acid 20%	D	D	B2	A	D	A	B2	
Hydrochloric Acid 100%	D	D	D	A	D	A	-	
Hydrochloric Acid 20%	D	C	A2	A	D	A	A2	
Hydrochloric Acid 37%	B	B	B	A	D	A	B2	
Hydrochloric Acid, Dry Gas	-	-	A2	-	A1	A	A2	
Hydrocyanic Acid	C	B	B	A	B	A	A2	
Hydrocyanic Acid (Gas 10%)	D	A	A	A	-	-	-	
Hydrofluoric Acid 100%	D	D	C	B	D	A	-	
Hydrofluoric Acid 20%	D	B	B	A	C1	A	A2	
Hydrofluoric Acid 50%	D	D	B1	B	D	A	A1	
Hydrofluoric Acid 75%	D	D	C	B	D	A	C1	
Hydrofluosilicic Acid 100%	D	B	B1	A	D	A1	B1	
Hydrofluosilicic Acid 20%	D	B	A2	A	D	A	B2	
Hydrogen Gas	C	A	A2	A	A2	A	A2	
Hydrogen Peroxide 10%	A	D	A1	A	C1	A	A2	
Hydrogen Peroxide 100%	B	D	A	A	D	A1	C2	
Hydrogen Peroxide 30%	B	D	A1	A	D	A	C2	
Hydrogen Peroxide 50%	B	D	A1	A	D	A1	C2	
Hydrogen Sulfide (aqua)	C	A	B1	D	C1	A	A	
Hydrogen Sulfide (dry)	C	A	A2	D	C1	A	A	
Hydroquinone	-	A	B	B	D	-	-	
Hydroxyacetic Acid 70%	-	A	D	A	-	-	-	
Ink	-	A	C	A	C	A	-	
Iodine	-	D	A	A	A	A2	A1	
Iodine (in alcohol)	-	-	A	-	C	A	B	
Isoctane	D	B1	A1	A1	A1	A2	-	
Isopropyl Acetate	D	D	D	D	B1	D	B1	
Isopropyl Ether	D	D	B	D	A1	D	A	
Isotane	-	D	A	A	D	A	-	
Jet Fuel (JP3, JP4, JP5)	D	D	C	A	C	B	B	
Kerosene	D	A	A2	A	A	A	C1	
Ketones	-	D	D	D	A2	C1	C1	
Lacquer Thinners	D	D	D	D	A1	-	B1	
Lacquers	D	D	D	D	A1	D	B1	
Lactic Acid	A	A	B1	A	B	B1	A1	
Lard	B	D	A1	A	A1	A	B1	
Latex	A	-	-	A	A1	A	-	
Lead Acetate	A	A	B	D	A	A	A2	
Lead Nitrate	B1	A1	A2	A2	-	A2	-	
Lead Sulfamate	B	A	B	A	B1	A	A1	
Ligroin	D	B	-	A	D	A	C2	
Lime	-	A	B	A	A1	A	B1	
Linoleic Acid	B1	-	A2	B1	-	A2	-	
Lithium Chloride	A1	A1	D	A1	-	A2	-	
Lubricants	D	D	B2	A	A1	A	-	
Lye: Ca(OH)2 Calcium Hydroxide	A	A	B2	B1	A2	A2	B2	
Lye: KOH Potassium Hydroxide	C	B	B	B	C	A	A	
Lye: NaOH Sodium Hydroxide	A1	B2	A	B1	A	D	B2	
Magnesium Bisulfate	-	B	A2	-	A1	-	-	
Magnesium Carbonate	-	A	B	A	-	A	A2	
Magnesium Chloride	A	A	B	A2	A1	A	A2	
Magnesium Hydroxide	A	A	A2	A	B1	A	A2	
Magnesium Nitrate	-	A	A2	A	A1	A	A2	
Magnesium Sulfate (Epsom Salts)	A	A	A1	A	A1	A	A2	
Maleic Acid	-	D	A2	A	A	A	B2	
Maleic Anhydride	-	D	-	A	-	A	-	
Malic Acid	B	D	A2	A	A	A	B2	
Manganese Sulfate	A1	A2	C	A2	A2	A2	-	
Mayonnaise	-	A	D	A	-	-	-	
Melamine	C	D	D	A	A	-	-	
Mercuric Chloride (dilute)	-	A	A	A	A	D	A2	
Mercuric Cyanide	A	A	A	A1	A2	A	A2	
Mercurous Nitrate	-	B1	A	A1	-	A	-	
Mercury	-	A	A	A	A	A	A2	
Methane	D	B	B	A	A	A	-	
Methanol (Methyl Alcohol)	A	A	A1	C	B1	A	A1	
Methyl Acetate	D	B	D	D	A2	B1	B1	
Methyl Acetone	-	D	D	D	A	D	-	
Methyl Acrylate	D	B	-	D	-	-	-	
Methyl Alcohol 10%	A	A	A1	C	B1	A	A1	
Methyl Bromide	-	D	D	A	B1	A	-	
Methyl Butyl Ketone	D	D	A	D	D	D	-	
Methyl Cellosolve	D	B	D	D	C	A	-	
Methyl Chloride	D	D	D	A1	B1	A	C1	
Methyl Dichloride	-	-	A	A1	C	D	-	
Methyl Ethyl Ketone	D	D	D	D	A1	D	B2	
Methyl Ethyl Ketone Peroxide	B	D	-	D	-	-	-	

Chemical Compatibilities

Chemical	Tubing					Fittings	
	Silicone	Santoprene®	PVC	Viton®	Nylon	Kynar® PVDF	Polyethylene
Methyl Isobutyl Ketone	D	D	D	D	B2	D	B1
Methyl Isopropyl Ketone	C	D	D	D	A	-	-
Methyl Methacrylate	C	D	A	D	-	-	-
Methylamine	-	-	D	D	-	C	-
Methylene Chloride	-	-	D	B	C1	B1	C1
Milk	A	A	A2	A	-	-	-
Mineral Spirits	D	C	A	A	A	-	-
Molasses	-	A	A	A	A1	B1	A
Monochloroacetic acid	-	A1	-	C	D	B1	-
Monoethanolamine	B	D	D	D	A	C	-
Morpholine	-	D	-	-	A2	B1	-
Motor oil	-	B1	B	-	A2	B	-
Mustard	-	A	B	D	-	-	-
Naphtha	D	D	A1	A	A	A	A
Naphthalene	D	D	D	A	A1	A2	A
Natural Gas	A	A	A	A	-	-	-
Nickel Chloride	A	B	A	A	C1	A	B2
Nickel Nitrate	-	A2	A	A2	A1	A2	-
Nickel Sulfate	A	A	A	A	A1	A	B2
Nitrating Acid (<15% HNO3)	-	A	D	-	-	-	-
Nitrating Acid (>15% H2SO4)	-	A	D	-	-	-	-
Nitrating Acid (.1% Acid)	-	A	D	-	-	-	-
Nitrating Acid (.15% H2SO4)	-	A	D	-	-	-	-
Nitric Acid (20%)	D	D	A1	A	D	A	C1
Nitric Acid (50%)	D	D	B1	A	D	A1	C1
Nitric Acid (5-10%)	C	B	A1	A	D	A1	B2
Nitric Acid (Concentrated)	D	D	B1	A	-	-	-
Nitrobenzene	D	D	D	B	B1	A1	C1
Nitromethane	D	D	B2	D	B1	A2	-
Nitrous Acid	-	D	A	B	-	B	-
Nitrous Oxide	-	A	A	B	C	D	-
Oils: Citric	-	D	B	A	-	-	-
Oils: Cottonseed	A	C	B2	A	-	-	-
Oils: Diesel Fuel (20, 30, 40, 50)	D	B	B	A	-	-	-
Oils: Fuel (1, 2, 3, 5A, 5B, 6)	C	D	A2	B	-	-	-
Oils: Hydraulic Oil (Petro)	B	A	A	A	-	-	-
Oils: Hydraulic Oil (Synthetic)	B	A	A	A	-	-	-
Oils: Linseed	A	D	A2	A	-	-	-
Oils: Mineral	C	B	B	A	-	-	-
Oils: Orange	D	C	C1	A	-	-	-
Oils: Silicone	C	D	A	A	-	-	-
Oils: Transformer	B	B	B	A	-	-	-
Oils: Turbine	D	D	A1	A	-	-	-
Oleic Acid	D	C	C2	B	A	A	C2
Oleum 100%	D	D	D	A	D	D	D
Oleum 25%	D	D	D	A	D	C1	D
Oxalic Acid (cold)	B	D	B	A	B2	B	A2
Ozone	A	C	B	A	D	A	-
Palmitic Acid	D	D	B1	A1	A	A2	-
Paraffin	-	B	B	B	A1	A	B
Pentane	D	B	A	A	A1	A	D
Perchloric Acid	D	A	C	A	D	A	-
Perchloroethylene	D	D	C1	A	C1	A	D
Petrolatum	D	A	B	A	D	A	B
Petroleum	D	B1	-	A2	A1	A	-
Phenol (10%)	D	D	C1	A	D	A	A2
Phenol (Carbolic Acid)	D	D	D	A	D	A1	B1
Phosphoric Acid (>40%)	D	B	B	A	B1	B	-
Phosphoric Acid (crude)	D	D	B2	A	B1	A	B1
Phosphoric Acid (molten)	-	A	D	-	-	D	-
Phosphoric Acid (.40%)	C	B	B	A	-	-	-
Phosphoric Acid Anhydride	-	A	-	-	-	D	-
Phosphorus	-	-	A1	-	-	A1	-
Phosphorus Trichloride	-	D	D	A1	-	-	-
Photographic Developer	B	A	A	A	-	-	A
Photographic Solutions	A	B1	A	B1	A1	B2	-
Phthalic Acid	B1	A	-	A1	B1	A2	-
Phthalic Anhydride	-	A	D	A	-	A	-
Picric Acid	D	A	D	A	C1	A1	-
Propylene Glycol	A	C	C1	A	A	-	B2
Resorcinol	-	D	C	A1	D	-	-
Rosins	A	A	C1	A	A1	-	B1
Rum	A	A	A	A	-	-	-
Rust Inhibitors	-	C	-	A	-	-	-
Potash (Potassium Carbonate)	-	A	A	A	A	A	B
Potassium Bromide	A1	A	A	A	A1	A	A
Potassium Chlorate	B	A	A	A	C1	A	A
Potassium Chloride	A	A	A	A	A1	A	A
Potassium Cyanide Solutions	A	B	A	A	A1	A	A
Potassium Dichromate	A	A	A	A	B1	A	A
Potassium Ferrocyanide	-	A	A	A	B1	A	A1
Potassium Hydroxide (Caustic Potash)	C	B	A1	B	C1	A	A
Potassium Nitrate	A	A	A	A	B1	A	B
Potassium Permanganate	-	A	A1	A	D	A	A
Potassium Sulfate	A	A	A2	A2	A1	A	A2
Potassium Sulfide	A	A	A2	A	A	A	A2
Propane (liquefied)	D	C	A1	A	A1	A	C1
Pyrogallol Acid	-	-	A	A	-	A	-
Salicylic Acid	-	-	B1	A1	A1	A	-
Potassium Hypochlorite	-	B2	B1	-	B1	A1	-
Potassium Ferricyanide	-	A1	A	A	B1	A2	-
Potassium Iodide	-	A	A2	A	A1	A2	-
Propylene	D	D	B1	A1	D	A2	A2
Potassium Bicarbonate	A1	A	A	A	A1	B	A
Potassium Chromate	-	A	A	A	B	B	A
Pyridine	D	D	D	D	C1	D	B1

Chemical	Tubing					Fittings	
	Silicone	Santoprene®	PVC	Viton®	Nylon	Kynar® PVDF	Polyethylene
Salt Brine (NaCl saturated)	A1	A2	A	A2	A	A	A
Sea Water	A1	B2	A2	A	A2	A	A2
Shellac (Bleached)	-	B2	-	A	A1	-	A1
Shellac (Orange)	-	D	-	A	A1	-	A1
Silicone	C	A	A	A	A1	A	A
Silver Nitrate	A	A	A1	A	A1	A	B2
Soap Solutions	A	B	A	A	A1	A1	C2
Soda Ash (see Sodium Carbonate)	A	A1	A	A	-	-	-
Sodium Acetate	D	B	B1	D	B1	A	B2
Sodium Benzoate	-	A1	B1	A1	B1	A2	-
Sodium Bicarbonate	A	A	A2	A	A	A	A2
Sodium Bisulfate	A	A	A2	A	A1	A	A2
Sodium Bisulfite	A	A	A2	A	C1	A	-
Sodium Borate (Borax)	A	A	A2	A	A	A	A2
Sodium Bromide	-	A1	B2	A1	B1	A2	-
Sodium Carbonate	A	A	A2	A	B1	A	B2
Sodium Chlorate	C	A	A1	A	D	A	B2
Sodium Chloride	A	A	A2	A	A1	A	A2
Sodium Chromate	-	A	-	A	C	A	-
Sodium Cyanide	A	A1	A2	A2	A1	A	A2
Sodium Ferrocyanide	-	A	A	A	-	A	-
Sodium Fluoride	-	A	A2	A	B	A	A2
Sodium Hydrosulfite	C	B	C	A	A	-	-
Sodium Hydroxide (20%)	A2	B2	A	C	A	A	A2
Sodium Hydroxide (50%)	A1	B2	A	D	A	D	A2
Sodium Hydroxide (80%)	A1	B1	A	D	C	D	B2
Sodium Hypochlorite (<20%)	B	C	A	A1	D	A	A
Sodium Hypochlorite (100%)	B	C	B	A1	D	A	B2
Sodium Hyposulfate	-	C	-	-	-	-	-
Sodium Metaphosphate	A	B	A	A	A1	A	A1
Sodium Metasilicate	-	A	A	A	-	-	-
Sodium Nitrate	D	B	A2	A	A1	A	A2
Sodium Perborate	B	B	A2	A	B1	-	A1
Sodium Peroxide	D	B1	B2	A	A1	A	A
Sodium Polyphosphate	D	B	A1	A	A1	A	A
Sodium Silicate	A	A	A2	A	A1	A	A2
Sodium Sulfate	A	A	A2	A	A	A	A2
Sodium Sulfide	A	A	A2	A2	A1	A	A2
Sodium Sulfite	A	A	A2	A2	D	A	B1
Sodium Tetraborate	A	B	A2	A	A	-	A2
Sodium Thiosulfate (hypo)	A	A2	A2	A	B	A	A1
Stannic Chloride	B	C1	A2	A	B1	A	A2
Stannous Chloride	B	A1	A1	A	C1	A	B2
Starch	-	A	A	A	-	-	-
Stearic Acid	B	B1	B2	A1	A2	A	B1
Stoddard Solvent	D	C1	C1	A	A	A	C2
Styrene	D	D	D	B	A1	-	-
Sulfate (Liquors)	B	B	B	A1	B1	A	A2
Sulfur Chloride	C	D	C1	A	A1	A1	C1
Sulfur Dioxide	B	B	A1	A	C1	A	B1
Sulfur Dioxide (dry)	B	D	A2	A	B1	A	B1
Sulfur Hexafluoride	B	A	B	-	-	-	-
Sulfur Trioxide	B	D	A	A	-	-	-
Sulfur Trioxide (dry)	B	D	A1	A	A1	C1	C1
Sulfuric Acid (<10%)	C	B2	A1	A	C1	A	A1
Sulfuric Acid (10-75%)	D	B1	A1	A2	D	A	A1
Sulfuric Acid (75-100%)	D	D	D	A1	D	A	B1
Sulfuric Acid (cold concentrated)	D	D	D	B	D	A	C
Sulfuric Acid (hot concentrated)	D	D	D	A2	D	C	D
Sulfurous Acid	D	C	A2	A	D	A	B2
Tallow	-	B	-	A	A1	-	-
Tannic Acid	B	A	A1	A	C1	B	B2
Tanning Liquors	B	A	A1	A	A1	-	A1
Tartaric Acid	A	A2	A1	A	B2	B	A1
Tetrachloroethane	D	D	C	A	C1	A	-
Tetrachloroethylene	D	D	D	A	A1	-	B
Tetrahydrofuran	D	D	D	D	A	B1	C1
Tin Salts	B	-	A	A	-	A	-
Toluene (toluol)	D	D	D	C	A1	A1	C1
Tomato Juice	-	A	A	A	A1	A	A1
Trichloroacetic Acid	D	D	B	C	C	B	-
Trichloroethane	D	D	C	A	C1	A	-
Trichloroethylene	D	D	D	A	C1	B	C1
Tricresylphosphate	C	C	D	A2	A2	D	B1
Triethylamine	-	A	B	D	A1	A2	-
Trisodium Phosphate	A	A	A	A	A	A	-
Turpentine	D	D	D	A	B	A	C1
Urea	B	B	D	A	A	A	-
Urine	-	D	A	A1	B	A	A2
Varnish	D	D	D	A	A	-	C1
Vinegar	A	B	B	A	A	B	B2
Vinyl Acetate	D	D	D	A1	-	A2	-
Vinyl Chloride	-	D	D	A1	A1	B1	-
Water, Acid, Mine	B	C	B	A	A	A	A2
Water, Deionized	-	A	A2	A1	A1	A2	-
Water, Distilled	C	A	A2	A	A1	A	A2
Water, Fresh	B	A	B	A	A1	A	A2
Water, Salt	B	A	B	A	A2	A	A2
Weed Killers	A	C	-	A	A	-	-
Whiskey & Wines	A	C	A2	A	A1	A	C
White Liquor (Pulp Mill)	A	A	A2	A	A1	A1	A2
White Water (Paper Mill)	-	A	A	A	A	-	-
Xylene	D	D	D	B	A2	A	C1
Zinc Chloride	B	A	B	A	A	A	A1
Zinc Sulfate	A	A	A2	A	A	A	A2