

PVC Type I Chemical Resistance Guide

This guide to the proper application of PVC Type I pipe and fittings is offered as a service to customers of Silver-Line. Much of the data was collected from outside sources; therefore, we cannot warrant its accuracy. Compounds designation for "Limited" use (L) and substances not listed should be tested prior to installation, as they may not be suitable under some conditions.

A = Acceptable L = Limited U = Unsuitable

	73°F	140°F		73°F	140°F		73°F	140°F
Acetaldehyde	U	U	Benzaldehyde 10%	U	U	Chloroacetic acid	A	U
Acetaldehyde 40%	L	U	Benzene	U	U	Chlorobenzene	U	U
Acetamide	U	U	Benzenesulfonic acid 10%	A	A	Chlorobenzyl chloride	U	U
Acetate solvents - crude	U	U	Benzenesulfonic acid	U	U	Chloroform	U	U
Acetate solvents - pure	U	U	Benzoic acid	A	A	Chlorosulfonic acid 100%	A	U
Acetic acid 0 - 20%	A	A	Benzol	U	U	Chrome alum	A	A
Acetic acid 20 - 30%	A	A	Bismuth carbonate	A	A	Chromic acid 10 - 40%	A	L
Acetic acid 30 - 60%	A	A	Black liquor (paper industry)	A	A	Chromic acid 50%	U	U
Acetic acid 80%	A	L	Bleach 12.5% active Cl ₂	A	L	Citric acid	A	A
Acetic acid - glacial	L	U	Borax	A	A	Coke oven gas	U	U
Acetic acid - vapors	L	U	Borax liquors	A	A	Copper salts	A	A
Acetic anhydride	U	U	Boric acid	A	A	Core oils	A	A
Acetone	U	U	Boron trifluoride	A	A	Cresol	U	U
Acetylene	L	L	Breeder pellets (fish derivative)	A	A	Cresylic acid 50%	A	A
Adipic acid	A	A	Brine	A	A	Crotonaldehyde	U	U
Alcohol, allyl -96%	L	U	Bromic acid	A	A	Crude oil - sour	A	A
Alcohol, amyl	L	U	Bromine - liquid	U	U	Crude oil - sweet	A	A
Alcohol, benzyl	U	U	Bromine gas 25%	A	A	Cupric fluoride	A	A
Alcohol, butyl (n-butanol)	A	A	Bromine water	A	A	Cuprous chloride	A	A
Alcohol, butyl (2-butanol)	A	U	Butadiene	A	A	Cyclohexane	U	U
Alcohol, ethyl	A	L	Butane	A	U	Cyclohexanol	U	U
Alcohol, hexyl	A	A	Butanediol	A	A	Cyclohexanone	U	U
Alcohol, methyl	A	U	Butyl acetate	L	U	Detergents	A	A
Alcohol, propyl (1-propanol)	A	U	Butyl phenol	U	U	Dextrin	A	A

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Allyl chloride	A	A	Butylene	A	L	Dextrose	A	A
Alum	U	U	Butyric acid 20%	L	U	Diazo salts	A	A
Aluminum hydroxide	A	A	Cadmium cyanide	U	U	Dibutyl sebacate	L	U
Aluminum salts	A	A	Calcium hydroxide	A	A	Dichlorobenzene	U	U
Ammonia - gas (dry)	A	A	Calcium hypochlorite	A	A	Dichloroethylene	U	U
Ammonia - gas (wet)	U	U	Calcium salts	A	A	Diesel fuels	A	A
Ammonia liquid	U	U	Cane sugar liquors	A	A	Diethylamine	U	U
Ammonium fluoride 0 - 25%	L	U	Carbolic acid	A	A	Diethyl ether	U	U
Ammonium hydroxide 0 - 28%	A	A	Carbon bisulfide	U	U	Diglycolic acid	A	L
Ammonium salts	A	A	Carbon dioxide (aqueous)	A	A	Dimethylamine	L	L
Amyl acetate	U	U	Carbon dioxide (dry)	A	A	Dimethyl formamide	U	U
Amyl chloride	U	U	Carbon dioxide (wet)	A	A	Diocetyl phthalate	U	U
Aniline	U	U	Carbon monoxide	A	A	Dioxane - 1, 4	U	U
Aniline chlorohydrate	U	U	Carbon tetrachloride	L	U	Disodium phosphate	A	A
Aniline dyes	U	U	Carbonated water	A	A	Ethers	U	U
Anthraquinone	A	U	Casein	A	A	Ethyl halides	U	U
Anthraquinonesulfonic acid	A	A	Castor oil	A	A	Ethylene glycol	A	A
Antimony trichloride	A	A	Caustic potash	A	A	Ethylene halides	U	U
Aqua regia	L	U	Caustic soda	A	A	Ethylene oxide	U	U
Aromatic hydrocarbons	U	U	Cellosolve	L	U	Fatty acids	A	A
Arsenic acid 80%	A	L	Cellosolve acetate	A	U	Ferric salts	A	A
Arylsulfonic acid	A	A	Chloral hydrate	A	A	Ferrous salts	A	A
Asphalt	A	A	Chloramine	A	U	Fish solubles	A	A
Barium carbonate	A	A	Chloric acid 20%	A	A	Fluorine gas - dry & wet	L	U
Barium chloride	A	A	Chloride water	A	A	Fluoboric acid 25%	A	A
Barium hydroxide 10%	A	A	Chlorinated solvents	U	U	Fluosilicic acid	A	A
Barium sulfate	A	A	Chlorine (dry)	U	U	Food products - milk, buttermilk, molasses, salad oils, fruits, fats	A	A
Barium sulfide	A	A	Chlorine gas (moist)	U	U			
Beer	A	A	Chlorine (liquid)	U	U	Formaldehyde	A	A
Beet sugar liquor	A	A	Chlorine water	A	A	Formic acid	A	U

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	73°F	140°F		73°F	140°F		73°F	140°F
Freon - F11, F12, F113, F114	A	A	Methyl cyclohexanone	U	U	Propane	A	A
Freon - F21, F22	U	U	Methyl ethyl ketone (MEK)	U	U	Propylene dichloride	U	U
Fructose	A	A	Methyl iso-butyl ketone (MIBK)	U	U	Propylene glycol	A	A
Fuel oils (containing H ₂ SO ₂)	U	U	Methyl methacrylate (MMA)	A	U	Propylene oxide	U	U
Furfural	U	U	Methyl salicylate	A	A	Pyridine	U	U
Gallic acid	A	A	Methyl sulfate	A	U	Pyrogallic acid	L	L
Gas - coke oven	U	U	Methyl sulfonic acid	A	A	Rayon coagulating bath	A	A
Gas - manufactured	U	U	Methylene halides	U	U	Rochelle salts	A	A
Gas - natural (dry & wet)	A	A	Mineral oils	A	L	Salicylaldehyde	L	L
Gasolines	A	A	Mixed acids (H ₂ SO ₄ & HNO ₃)	L	U	Salicylic acid	A	A
Gelatine	A	A	Monochlorobenzene	U	U	salt water (or sea water)	A	A
Glucose	A	A	Monethanolamine	U	U	Selenic acid	A	A
Glue	A	A	Muriatic acid	A	A	sewage, residential	A	A
Glycerine (glycerol)	A	A	Naphtha	A	A	Silicic acid	A	A
Glycol	A	A	Naphthalene	U	U	Silicone oil	A	U
Glycolic acid 30%	A	A	Nickel salts	A	A	Silver salts	A	A
Green liquor (paper industry)	A	A	Nicotine - Nicotinic acid	A	A	Soaps (and solutions)	A	A
Heptane	A	A	Nitric acid anhydrous	U	U	Sodium hydroxide	A	A
Hexane	A	U	Nitric acid 10%	A	A	Sodium hypochlorite	A	A
Hexanol tertiary	A	A	Nitric acid 20 - 70%	A	L	Sodium salts	A	A
Hydrazine	U	U	Nitric acid 80%	L	L	Stannic chloride	A	A
Hydrobromic acid 20%	A	A	Nitric acid 90%	L	U	Stannous chloride	A	A
Hydrochloric acid 0 - 40%	A	A	Nitric acid 100%	U	U	Stannous chloride 50%	A	A
Hydrocyanic acid or hydrogen cyanide	A	A	Nitric acid red fuming	U	U	Starch	A	A
Hydrofluoric acid 4 - 100%	A	L	Nitrobenzene	U	U	Stearic acid	A	A
Hydrogen	A	A	Nitroglycerine	U	U	Stoddard solvent	U	U
Hydrogen peroxide 30 - 90%	A	A	Nitroglycol	U	U	Sulfite liquor	A	A
Hydrogen phosphide	A	A	Nitropropane	L	L	Sulfur	A	A

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	73°F	140°F		73°F	140°F		73°F	140°F
Hydrogen sulfide (dry or solution)	A	A	Nitrous acid 10%	A	L	Sulfur dioxide gas (dry)	A	A
Hydroxylamine sulfate	A	A	Nitrous oxide	A	L	Sulfur dioxide gas (wet)	A	U
Hypochlorous acid	A	A	Oleic acid	A	A	Sulfur dioxide gas (liquid)	L	U
Hypo - (sodium thio-sulfate)	A	A	Oleum	U	U	Sulfur trioxide (dry)	A	A
Iodine	U	U	Oxalic acid	A	A	Sulfur trioxide (wet)	A	L
Iodine (in alcohol)	U	U	Oxygen	A	A	Sulfuric acid 0 - 70%	A	A
Iodine solution 10%	U	U	Ozone	A	L	Sulfuric acid 70 - 90%	A	L
Jet fuels - JP4 & JP5	A	A	Palmitic acid 10%	A	A	Sulfuric acid 90 - 100%	L	U
Kerosene	A	A	Palmitic acid 70%	A	U	Sulfurous acid	U	U
Ketones	U	U	Paraffin	A	A	Tall oil	A	A
Kraft liquor (paper industry)	A	A	Pentane	L	L	Tannic acid	A	A
Lacquer thinners	U	U	Peracetic acid 40%	L	U	Tanning liquors	A	A
Lactic acid 25%	A	A	Perchloric acid 10%	A	L	Tartaric acid	A	A
Lard oil	A	A	Perchloric acid 15 - 70%	L	U	Terpineol	U	U
Lauric acid	A	A	Perchloroethylene	L	L	Tetrachloroethane	L	L
Lauryl chloride	A	L	Petrolatum	A	A	Tetraethyl lead	L	U
Lauryl sulfate	A	A	Petroleum liquifier	A	A	Tetrahydro furan	U	U
Lead salts	A	A	Phenol	U	U	Thionyl chloride	U	U
Lime sulfur	A	A	Phenylcarbinol	U	U	Tin chloride	A	A
Linoleic acid	A	A	Phenylhydrazine	U	U	Titanium tetrachloride	U	U
Linseed oil	A	A	Phenylhydrazine hydrochloride	U	U	Toluol (toluene)	U	U
Liqueurs & liquors	A	A	Phosgene (gas)	A	U	Tributyl citrate	A	U
Lithium salts	A	A	Phosgene (liquid)	U	U	Tributyl phosphate	U	U
Lubricating oil ASTM 1-2-3	A	A	Phosphoric acid 0- 25%	A	A	Trichloroacetic acid	A	A
Machine oil	A	A	Phosphoric acid 25 - 85%	A	A	Trichloroethylene	U	U
Magnesium hydroxide	A	A	Phosphorus (red)	A	A	Tricresylphosphate	U	U
Magnesium salts	A	A	Phosphorus (yellow)	A	L	Triethanolamine	L	U

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Maleic acid	A	A	Phosphorus pent-oxide	A	L	Triethylamine	A	L
Manganese sulfate	A	A	Phosphorus tri-chloride	U	U	Trimethyl propane	L	U
Mercuric salts	A	A	Photographic chemicals	A	A	Trisodium phosphate	A	A
Mercurous nitrate	A	A	Photographic solutions	A	A	Turpentine	A	A
Mercury	A	A	Pitric acid	U	U	Urea	A	A
Mesityl oxide	U	U	Plating solutions - metals	A	L	Vaseline	A	A
Metallic soaps	A	A	Potassium acid sulfate	A	L	Vinegar	A	A
Methane	A	A	Potassium alkyl xanthates	A	U	Vinyl acetate	U	U
Methyl acetate	U	U	Potassium hydroxide	A	A	White gasoline	A	A
Methyl bromide	U	U	Potassium hypochlorite	A	L	White liquor (paper industry)	A	A
Methyl cellosolve	U	U	Potassium permanganate 10%	A	A	Wines	A	A
Methyl chloride	U	U	Potassium permanganate 25%	L	U	Xylene (xylolO)	U	U
Methyl chloroform	U	U	Potassium salts	A	A	Zinc salts	A	A