POLYVINYL CHLORIDE (PVC)
CHEMICAL RESISTANCE DATA

CHEMICAL	73F (23C)	140F (60C)
Acetaldehyde	N	N
Acetaldehyde, aq 40%	C	N
Acetamide	-	-
Acetic acid, vapor	R	R
Acetic acid, glacial	R	N
Acetic acid, 20%	R	R
Acetic acid, 80%	R	C
Acetic anhydride	N	N
Acetone	N	N
Acetylene	C	C
Adipic acid	R	R
Alcohol, allyl	R	C
Alcohol, benzyl	N	N
Alcohol, butyl (n-butanol)	R	R
Alcohol, butyl (2-butanol)	R	N
Alcohol, ethyl	R	R
Alcohol, hexyl	R	R
Alcohol, isopropyl (2-propanol)	R	R
Alcohol, methyl	R	R
Alcohol, propyl (1-propanol)	R	R
Allyl chloride	N	N
Alums	R	R
Ammonia, gas	R	R
Ammonia, liquid	N	N
Ammonia, aq	R	R
Ammonium salts	R	R
Ammonium fluoride, 25%	R	C
Amyl acetate	N	N
Amyl chloride	N	N
Aniline	N	N
Aniline chlorohydrate	N	N
Aniline hydrochloride	N	N
Aniline dyes	N	N
Anthraquinone	R	R
Anthraquinone sulfonic acid	R	R
Antimony trichloride	R	R
Aqua regia	C	N
Arsenic acid, 80%	R	R
Aryl-sulfonic acid	R	R
Barium salts	R	R
Beer	R	R
Beet sugar liquor	R	R
Benzaldehyde, 10%	R	N
Benzaldehyde, above 10%	N	N
Benzene (benzol)	N	N
Benzene sulfonic acid, 10%	R	R
Benzene sulfonic acid	N	N
Benzoic acid	R	R
Black liquor - paper	R	R
Bleach, 12.5% active chlorine	R	R
Bleach, 5.5% active chlorine	R	R
Borax	R	R
Boric acid	R	R
Boron triflouride	R	R
Bromic acid	R	R
Bromine, liquid	N	N
Bromine, gas, 25%	R	R
Bromine, aq	R	R
Butadiene	R	R
Butane	R	R
Butantetrol (erythritol)	R	N
Butanediol	R	R
Butyl acetate	N	N
Butyl phenol	R	N
Butylene	R	R
Butyric acid	R	N
Calcium salts, aq	R	R
Calcium hypochlorite	R	R
Calcium hydroxide	R	R

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POLYVINYL CHLORIDE (PVC)
CHEMICAL RESISTANCE DATA

CHEMICAL	73F (23C)	140F (60C)	CHEMICAL	73F (23C)	140F (60C)
Cane sugar liquors	R	R	Cresol	N	N
Carbon bisulfide	N	N	Cresylic acid, 50%	R	R
Carbon dioxide	R	R	Croton aldehyde	N	N
Carbon dioxide, aq	R	R	Crude oil	R	R
Carbon monoxide	R	R	Cyclohexane	N	N
Carbon tetrachloride	R	N	Cyclohexanol	N	N
Casein	R	R	Cyclohexanone	N	N
Castor oil	R	R	Diazo salts	R	R
Causticpotash (potassium hydrox	R	R	Diesel fuels	R	R
Caustic soda (sodium hydroxide)	R	R	Diethyl amine	N	N
Cellosolve	R	C	Dioctyl phthalate	N	N
Cellosolve acetate	R	-	Disodium phosphate	R	R
Chloral hydrate	R	R	Diglycolic acid	R	R
Chloramine	R	-	Dioxane-1,4	N	N
Chloric acid, 20%	R	R			
			Dimethylamine	R	R
Chlorine, gas, dry	C	N	Dimethyl formamide	N	N
Chlorine, gas, wet	N	N	Detergents, aq	R	R
Chlorine, liquid	N	N	Dibutyl phthalate	N	N
Chlorine water	R	R	Dibutyl sebacate	C	N
Chloracetic acid	R	R	Dichlorobenzene	N	N
			Dichloroethylene	N	N
Chlorobenzene	N	N			
Chlorobenzyl chloride	N	N	Ethers	N	N
Chloroform	N	N	Ethyl esters	N	N
Chlorosulfonic acid	R	N	Ethyl halides	N	N
Chromic acid, 10%	R	R	Ethylene halides	N	N
			Ethylene glycol	R	R
Chromic acid, 30%	R	C	Ethylene oxide	N	N
Chromic acid, 40%	R	C			
			Fatty acids	R	R
Chromic acid, 50%	N	N	Ferric salts	R	R
Citric acid	R	R	Fluorine, dry gas	C	N
Coconut oil	R	R	Fluorine, wet gas	C	N
Coke oven gas	R	R	Fluoboric acid, 25%	R	R
Copper salts, aq	R	R	Fluosilicic acid	R	R
Corn oil	R	R	Formaldehyde	R	R
Corn syrup	R	R	Formic acid	R	N
Cottonseed oil	R	R	Freon - F11, F12, F13, F14	R	R
			Freon - F21, F22	N	N

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POLYVINYL CHLORIDE (PVC)
CHEMICAL RESISTANCE DATA

CHEMICAL	73F (23C)	140F (60C)	CHEMICAL	73F (23C)	140F (60C)
Fruit juices and pulps	R	R	Lacquer thinners	C	N
Fuel oil	C	N	Lactic acid, 25%	R	R
Furfural	N	N	Lard oil	R	R
Gas, coal, manufactured	N	N	Lauric acid	R	R
Gas, natural, methane	R	R	Lauryl chloride	R	R
Gasolines	C	C	Lauryl sulfate	R	R
Gelatin	R	R	Lead salts	R	R
Glycerine (glycerol)	R	R	Lime sulfur	R	R
Glycols	R	R	Linoleic acid	R	R
Glue, animal	R	R	Linseed oil	R	R
Glycolic acid	R	R	Liqueurs	R	R
Green liquor, paper	R	R	Liquors	R	R
Gallic acid	R	R	Lithium salts	R	R
Heptane	R	R	Lubricating oils	R	R
Hexane	R	C			
			Machine oil	R	R
Hydrobromic acid, 20%	R	R	Magnesium salts	R	R
Hydrochloric acid	R	R	Maleic acid	R	R
Hydrofluoric acid, 10%	R	C	Malic acid	R	R
Hydrofluoric acid, 60%	R	C	Manganese sulfate	R	R
Hydrofluoric acid, 100%	R	C			
Hydrocyanic acid	R	R	Mercuric salts	R	R
Hydrogen	R	R	Mercury	R	R
Hydrogen peroxide, 50%	R	R	Mesityl oxide	N	N
Hydrogen peroxide, 90%	R	R	Metallic soaps, aq	R	R
Hydrogen sulfide, aq	R	R	Methane	R	R
Hydrogen sulfide, dry	R	R	Methyl acetate	N	N
Hydroquinone	R	R	Methyl bromide	N	N
Hydroxylamine sulfate	R	R			
Hydrazine	N	N	Methyl cellosolve	N	N
Hypochlorous acid	R	R	Methyl chloride	N	N
			Methyl chloroform	N	N
Iodine, in KI, 3%, aq	C	N	Methyl cyclohexanone	N	N
Iodine, alc	N	N	Methyl methacrylate	R	-
Iodine, aq, 10%	N	N			
Jet fuels, JP-4 and JP-5	R	R	Methyl salicylate	R	R
Kerosene	R	R	Methyl sulfate	R	C
Ketones	N	N	Methyl sulfonic acid	R	R
Kraft paper liquor	R	R	Methylene bromide	N	N
			Methylene chloride	N	N

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POLYVINYL CHLORIDE (PVC)
CHEMICAL RESISTANCE DATA

CHEMICAL	73F (23C)	140F (60C)	CHEMICAL	73F (23C)	140F (60C)
Methylene iodide	N	N	Palmitic acid, 10%	R	R
Milk	R	R	Palmitic acid, 70%	R	N
Mineral oil	R	R	Paraffin	R	R
Mixed acids (sulfuric & nitric)	C	N	Pentane	C	C
Mixed acids (sulfuric & phosphoric)	R	R	Peracetic acid, 40%	R	N
Molasses	R	R	Perchloric acid, 10%	R	C
Monochlorobenzene	N	N	Perchloric acid, 70%	R	N
Monoethanolamine	N	N	Perchloroethylene	C	C
Motor oil	R	R	Petroleum, sour	R	R
			Petroleum, refined	R	R
Naphtha	R	R	Phenol	C	N
Naphthalene	N	N			
Nickel salts	R	R	Phenylcarbinol	N	N
Nicotine	R	R	Phenylhydrazine	N	N
Nicotinic acid	R	R	Phenylhydrazine HC1	C	N
			Phosgene, gas	R	C
Nitric acid, 0 to 50%	R	C	Phosgene, liquid	N	N
Nitric acid, 60%	R	C			
Nitric acid, 70%	R	C	Phosphoric acid	R	R
Nitric acid, 80%	C	C	Phosphorus, yellow	R	C
Nitric acid, 90%	C	N	Phosphorus, red	R	R
Nitric acid, 100%	N	N			
Nitric acid, fuming	N	N	Phosphorus pentoxide	R	C
			Phosphorus trichloride	N	N
Nitrobenzene	N	N			
Nitroglycerine	N	N	Photographic chemicals, aq	R	R
Nitrous acid	R	C	Phthalic acid	C	C
Nitrous oxide, gas	R	C	Picric acid	N	N
Nitroglycol	N	N	Plating solutions, metal	R	C
Nitropropane	C	C	Potassium salts, aq	R	R
Oils, vegetable	R	R	Potassium permanganate, 25%	C	C
Oils and fats	R	R	Potassium alkyl xanthates	R	N
Oleic acid	R	R	Propane	R	R
			Propylene dichloride	N	N
Oleum	N	N	Propylene glycol	R	R
Olive oil	C	-			
Oxalic acid	R	R	Propylene oxide	N	N
Oxygen, gas	R	R	Pyridine	N	N
Ozone, gas	R	C	Pyrogallic acid	C	N

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POLYVINYL CHLORIDE (PVC)
CHEMICAL RESISTANCE DATA

CHEMICAL	73F (23C)	140F (60C)
Rayon coagulating bath	R	R
Sea water	R	R
Salicylic acid	R	R
Salicylaldehyde	C	C
Selenic acid	R	R
Sewage, residential	R	R
Silicic acid	R	R
Silicone oil	R	N
Silver salts	R	R
Soaps	R	R
Sodium salts, aq, except	R	R
Sodium chlorite	R	R
Sodium chlorate	R	C
Sodium dichromate, acid	R	R
Sodium perborate	R	R
Stannic chloride	R	R
Stannous chloride	R	R
Starch	R	R
Stearic acid	R	R
Stoddard solvent	N	N
Sulfite liquor	R	R
Sulfur	R	R
Sugars, aq	R	R
Sulfur dioxide, dry	R	R
Sulfur dioxide, wet	R	C
Sulfur trioxide, gas, dry	R	R
Sulfur trioxide, wet	R	C
Sulfuric acid, up to 70%	R	R
Sulfuric acid, 70 to 90%	R	C
Sulfuric acid, 90 to 100%	C	N
Sulfurous acid	C	N
Tall Oil	R	R
Tannic acid	R	R
Tanning liquors	R	R
Tartaric acid	R	R
Tetrachloroethane	C	C
Tetraethyl lead	R	C
Tetrahydrofuran	N	N
Thionyl chloride	N	N
Thread cutting oils	R	N
Terpineol	C	C
Titanium tetrachloride	C	N
Toluene	N	N
Tributyl phosphate	N	N
Tributyl citrate	R	-
Tricresyl phosphate	N	N
Trichloroacetic acid	R	R
Trichloroethylene	N	N
Triethanolamine	R	C
Triethylamine	R	R
Trimethyl propane	R	C
Turpentine	R	R
Urea	R	R
Urine	R	R
Vaseline	N	N
Vegetable oils	R	R
Vinegar	R	R
Vinyl acetate	N	N
Water, distilled	R	R
Water, fresh	R	R
Water, mine	R	R
Water, salt	R	R
Water, tap	R	R
Whiskey	R	R
Wines	R	R
Xylene	N	N
Zinc salts	R	R

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POLYVINYL CHLORIDE (PVC)
CHEMICAL RESISTANCE DATA

Source: PPI TR-19 Plastic Pipe Institute, New York, New York

This table is meant to aid the designer in decisions as to transporting/conveyance of undiluted chemicals. The chemical resistance information for PVC pipe provided is based on short-term immersion of unstressed strips of PVC in chemicals and to a lesser degree on field experience.

The following chemical resistance legend is used in the PVC Table:

R	General Resistant
C	Less Resistant than R but still suitable for some conditions
N	Not Resistant

R – Generally Resistant C – Less resistant than R but still suitable for some conditions N – Not resistant