

POLYPROPYLENE AND PVC CHEMICAL RESISTANCE TABLES



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POLYPROPYLENE AND PVC CHEMICAL RESISTANCE TABLES

(+) = Resistant
(0) = Partially resistant
(-) = Non-resistant

Chemical	Formula	Concentration	Temp °C	PVC	PP
Acetic acid	CH ₃ COOH	Technically pure, glacial	20 40	0 -	+ +
Acetic anhydride	(CH ₃ CO) ₂ O	Technically pure	20 40	- -	+ 0
Acetone	CH ₃ -CO-CH ₃	Technically pure	20 40	- -	+ +
Ammonia	NH ₃	Gaseous, technically pure	20 40	+ +	+ +
Ammonium acetate	CH ₃ COONH ₄	Aqueous, all	20 40	+ +	+ +
Ammonium chloride	NH ₄ Cl	10% Aqueous	20 40	+ +	+ +
Ammonium dihydrogen phosphate	NH ₄ H ₂ PO ₄	Cold saturated, aqueous	20 40	+ +	+ +
Ammonium hydrogen fluoride	NH ₄ HF ₂	50% Aqueous	20 40	+ +	+ +
Ammonium nitrate	NH ₄ NO ₃	10% Aqueous	20 40	+ +	+ +
Aniline	C ₆ H ₅ NH ₂	Technically pure	20	-	0
Antimony trichloride	SbCl ₃	90% Aqueous	20 40	+ +	+ +
Arsenic acid	H ₃ AsO ₄	80% Aqueous	20 40	+ +	+ +
Barium hydroxide	Ba(OH) ₂	Saturated, aqueous	20 40	+ +	+ +
Beer		Usual commercial	20 40	+ +	+ +
Bisulfide of carbon	CS ₂	Technically pure	20	-	0
Boric acid	H ₃ BO ₃	Aqueous, all	20 40	+ +	+ +
Bromine	Br ₂	Technically pure	20	-	-
Butane	C ₄ H ₁₀	Technically pure	20	+	+
Butanediol	HOC ₄ H ₈ OH	10% Aqueous	20 40	+ 0	+ +
Butanol	C ₄ H ₉ OH	Technically pure	20 40	+ +	+ +
Butene	C ₄ H ₈	Technically pure	20	+	-
Calcium hypochlorite	Ca(OCl) ₂	Cold saturated, aqueous	20 40	+ +	+ +
Chloric acid	HClO ₃	10% Aqueous	20 40	+ +	- -
Chlorine, molecular	Cl ₂	Moist, 97% - gaseous	20	0	-
Chloroacetic acid	Cl ₂ CHCOOH	Technically pure	20 40	+ +	+ +
Chlorobenzene	C ₆ H ₅ Cl	Technically pure	20	-	+
Chloroform	CHCl ₃	Technically pure	20	-	0
Chromic acid	H ₂ CrO ₄	< 50% Aqueous	20 40	+ +	0 -
Cyclohexanole	C ₆ H ₁₁ OH	Technically pure	20 40	+ +	+ +
Dichlorobenzene	C ₆ H ₄ Cl ₂	Technically pure	20	-	0
Diesel oil			20 40	+ +	0 0

Chemical	Formula	Concentration	Temp °C	PVC	PP
Diisobutylketone	C ₉ H ₁₈ O	Technically pure	20	-	+
Dioxane	C ₄ H ₈ O ₂	Technically pure	20 40	- -	0 0
Ethanol	C ₂ H ₅ OH	96% Technically pure	20 40	+ +	+ +
Ethylene diamine	C ₂ H ₈ N ₂	Technically pure	20	0	+
Fluorine	F ₂	Technically pure	20	0	-
Fluorosilicic acid	H ₂ SiF ₆	32% Aqueous	20 40	+ +	+ +
Formamide	HCONH ₂	Technically pure	20 40	- -	+ +
Formic acid	HCOOH	< 50% Aqueous Technically pure	20 40 40	+ + 0	+ + 0
Gasoline	C _n H _{2n+2}	Free of lead and aromatic compounds	20 40	+ +	0 0
Glucose	C ₆ H ₁₂ O ₆	Aqueous, all	20 40	+ +	+ +
Glycolic acid	CH ₂ OHCOOH	37% Aqueous	20	+	+
Heptane	C ₇ H ₁₆	Technically pure	20	+	+
Hexane	C ₆ H ₁₄	Technically pure	20	+	+
Hydrochloric acid	HCl	5% Aqueous 10% Aqueous Until 30% Aqueous 36% Aqueous Technically pure	20 40 20 40 20 40 20 40	+ + + + + + + +	+ + + + 0 + + +
Hydrocyanic acid	HCN	Technically pure	20 40	+ +	+ +
Hydrofluoric acid	HF	< 40% Aqueous	20 40	+ 0	+ +
Hydrogen	H ₂	Technically pure	20 40	+ +	+ +
Hydrogen peroxide	H ₂ O ₂	10% Aqueous	20 40	+ +	+ +
Hydrogen sulfide	H ₂ S	Technically pure	20 40	+ +	+ +
Lactic acid	C ₃ H ₆ O ₃	10% Aqueous	20 40	+ 0	+ +
Maleic acid	C ₄ H ₄ O ₄	Cold saturated, aqueous	20 40	+ +	+ +
Mercury	Hg	Pure	20 40	+ +	+ +
Methane	CH ₄	Technically pure	20	+	+
Methanol	CH ₃ OH	All	20 40	+ +	+ +
Methyl ethylketone	CH ₃ COC ₂ H ₅	Technically pure	20 40	- -	+ 0
Methylacetate	CH ₃ COOCH ₃	Technically pure	20 40	- -	+ +

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Chemical	Formula	Concentration	Temp °C	PVC	PP
Methylamine	CH ₃ NH ₂	32% Aqueous	20	0	+
Nitric acid	HNO ₃	6,3% Aqueous	20	+	+
		< 40% Aqueous	40	+	0
		65% Aqueous	20	0	-
Oleum	H ₂ SO ₄ +SO ₃	10% di SO ₃	20	-	-
			40	-	-
Olive oil			20	+	+
			40	+	+
Oxalic acid	(COOH) ₂	Cold saturated, aqueous	20	+	+
			40	+	+
Oxygen	O ₂	Technically pure	20	+	+
			40	+	+
Ozone	O ₃	up to 2%, in air	20	+	0
			40	+	-
Perchloric acid	HClO ₄	10% Aqueous	20	+	+
			40	+	+
Phosphor pentoxide	P ₂ O ₅	Technically pure	20	+	+
			40	+	+
Phosphoric acid, aqueous	H ₃ PO ₄	< 30% Aqueous	20	+	+
			40	+	+
			20	+	+
			40	+	+
Potassium borate	K ₃ BO ₃	10% Aqueous	20	+	+
			40	+	+
Potassium bromide	KBr	Aqueous, all	20	+	+
			40	+	+
Potassium carbonate	K ₂ CO ₃	Cold saturated, aqueous	20	+	+
			40	+	+
Potassium chrome sulphate	KCr(SO ₄) ₂	Cold saturated, aqueous	20	+	+
			40	+	+
Potassium dichromate	K ₂ Cr ₂ O ₇	Saturated, aqueous	20	+	+
			40	+	+
Potassium iodite	KI	Cold saturated, aqueous	20	+	+
			40	+	+
Potassium nitrate	KNO ₃	50% Aqueous	20	+	+
			40	+	+
Potassium persulphate	K ₂ S ₂ O ₈	Aqueous, all	20	+	+
			40	+	+
Propane	C ₃ H ₈	Technically pure, aqueous	20	+	+
			40	+	+
Propionic acid	CH ₃ CH ₂ COOH	50% Aqueous	20	+	+
			40	+	+
Sea water			20	+	+
			40	+	+
Sodium acetate	CH ₃ COONa	Aqueous, all	20	+	+
			40	+	+
Sodium bromate	NaBrO ₃	Aqueous, all	20	+	+
			40	0	0
Sodium bromide	NaBr	Aqueous, all	20	+	+
			40	+	+
Sodium carbonate	Na ₂ CO ₃	Cold saturated, Aqueous	20	+	+
			40	+	+
Sodium disulfite	Na ₂ S ₂ O ₅	Aqueous, all	20	+	+
			40	+	+
Sodium dithionite	Na ₂ S ₂ O ₄	< 10% Aqueous	20	+	+
			40	+	+

Chemical	Formula	Concentration	Temp °C	PVC	PP
Sodium fluoride	NaF	Cold saturated, aqueous	20	+	+
			40	+	+
Sodium hydrogencarbonate	NaHCO ₃	Cold saturated, aqueous	20	+	+
			40	+	+
Sodium hydrogensulfite	NaHSO ₃	Aqueous, all	20	+	+
			40	0	+
Sodium hydroxide	NaOH	< 10% Aqueous	20	+	+
			40	+	+
Sodium iodide	NaI	Aqueous, all	20	+	+
			40	+	+
Sodium nitrate	NaNO ₃	Cold saturated, aqueous	20	+	+
			40	+	+
Sodium phosphate	Na ₃ PO ₄	Cold saturated, aqueous	20	+	+
			40	+	+
Sodium silicate	Na ₂ SiO ₃	Aqueous, all	20	+	+
			40	+	+
Sodium sulphate	Na ₂ SO ₄	Cold saturated, aqueous	20	+	+
			40	+	+
Sodium tetraborate	Na ₂ B ₄ O ₇	Aqueous, all	20	+	+
			40	+	+
Sulfur	S	Technically pure	20	0	+
			40	-	+
Sulphuric acid	H ₂ SO ₄	< 40% Aqueous	20	+	+
			40	+	+
			20	+	+
			40	+	+
			20	+	+
			40	+	+
Sulphurous acid	H ₂ SO ₃	Saturated, aqueous	20	+	+
			40	+	+
			20	+	0
			40	+	-
Tartaric acid	C ₄ H ₆ O ₆	Aqueous, all	20	+	+
			40	+	+
Tetrachloro ethane	C ₂ H ₂ Cl ₄	Technically pure	20	-	0
			40	-	0
Trichloroacetic acid	CCl ₃ COOH	Technically pure	20	0	+
			40	-	+
Triethylphosphate	(C ₂ H ₅) ₃ PO ₄	Technically pure	20	-	+
			40	-	+
Urea	H ₂ N-CO-NH ₂	< 30% Aqueous	20	+	+
			40	+	+
Waste gas with bromine vapours	Br ₂	High	20	-	-
			40	-	-
Waste gas with carbon dioxide	CO ₂	Technically pure, dry	20	+	+
			40	+	+
		Technically pure, moist	20	+	+
			40	+	+
Waste gas with nitric oxide	NOx	Diluted, dry and moist	20	+	+
			40	+	0
Waste gas with sulfur dioxide	SO ₂	Technically pure, dry	20	+	+
			40	+	+
			20	+	+
			40	+	+
		Technically pure, liquid	20	-	-
			40	-	-
Waste gas with sulfur trioxide	SO ₃	Technically pure, liquid	20	-	-
			40	-	-
Xylene	C ₈ H ₁₀	Technically pure	20	-	-
			40	-	-

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