

ProMinent® Chemical Resistance List

Resistance of Materials Used in Liquid Ends to the Chemicals Most Frequently Used

The data apply to standard conditions (20 °C, 1,013 mbar).

s	=	saturated solution in water
+	=	resistant
+/o	=	largely resistant
o	=	conditionally resistant
-	=	not resistant
n	=	resistance not known
=>	=	see
*	=	For bonded connections, the resistance of the adhesive (e.g. Tangit) is to be considered. (Materials of the types 'o' and '-' are not recommended !)
**	=	does not apply to glass fibre reinforced material

Concentration data are stated in weight percent, referred to aqueous solutions. If percentages are stated for the level of resistance, this level of resistance is only valid up to this concentration.

NOTE:

The elastomers **CSM (Hypalon®)** and **IIR (butyl rubber)** used as diaphragm materials in pulsation dampers have properties similar to **EPDM**.

PTFE is resistant to all chemicals in this list.

PTFE filled with carbon, however, is attacked by strong oxidants such as bromine (anhydrous) or concentrated acids (phosphoric acid, sulphuric acid, chromic acid).

The resistance of PVC-U adhesive joints with Tangit deviates from the list below with regard to the following chemicals:

Medium	Concentration range
Sulfochromic acid	≥ 70 % H ₂ SO ₄ + 5 % K ₂ Cr ₂ O ₇ /Na ₂ Cr ₂ O ₇
Chromic acid	≥ 10 % CrO ₃
Hydrochloric acid	≥ 25 % HCl
Hydrogen peroxide	≥ 5 % H ₂ O ₂
Hydrofluoric acid	≥ 0 % HF

Explanation of abbreviations used as column headings:

Acrylic:	Acrylic resistance
PVC:	PVC, rigid, (PVC-U) resistance
PP:	Polypropylene resistance
PVDF:	PVDF resistance
1.4404:	Stainless steel 1.4404 & 1.4571 resistance
FKM:	Fluorine Rubber (e.g. Viton® A & B) resistance
EPDM:	Ethylene-Propylene-Dien-rubber resistance
Tygon:	Tygon® R-3603 resistance
Pharmed:	Pharmed® resistance
PE:	Polyethylene resistance
2.4819:	Hastelloy C-276 resistance
WGK:	water endangering class

Viton® is a registered trademark of DuPont Dow Elastomers

Water endangering classes (WGK):

1	=	slightly hazardous to water
2	=	hazardous to water
3	=	severely hazardous to water
(X)	=	No classification. Classification according to conclusion by analogy. To be used under reserve.

Safety data sheets

Safety data sheets on our products in a number of different languages are provided on our website.

www.prominent.com/MSDS



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The data has been taken from relevant manufacturer's documentation and our own tests. Resistance of materials is also dependant on other factors, e.g. operating conditions, conditions of surfaces etc, and so this list must be treated as an initial guide only. It cannot claim to offer any guarantees. It should be taken into consideration in particular that usual dosing media are compounds, and their corrosiveness cannot be deducted simply by adding the corrosiveness of each single component. In such cases the chemical producers' data of the material compatibility are to be considered as a matter of prime importance for the material choice. A safety data sheet does not give this data and therefore cannot take the place of the technical documentation on the application.

Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Acetaldehyde	CH ₃ CHO	100%	-	-	o	-	+	-	+/o	-	-	+	+	2
Acetamide	CH ₃ CONH ₂	s	+	+	+	+	+	o	+	-	+/o	+	+	1
Acetic Acid	CH ₃ COOH	100%	-	50%	+	+	+	-	o	60%	60%	70%	+	1
Acetic Anhydride	(CH ₃ CO) ₂ O	100%	-	-	o	-	+	-	+/o	-	+	o	+	1
Acetic Ether => Ethyl Acetate														
Acetone	CH ₃ COCH ₃	100%	-	-	+	-	+	-	+	-	-	+	+	1
Acetophenone	C ₆ H ₅ COCH ₃	100%	-	n	+	-	+	-	+	n	n	+	+	1
Acetyl Chloride	CH ₃ COCl	100%	-	+	n	-	o	+	-	-	o	n	+	1
Acetylacetone	CH ₃ COCH ₂ COCH ₃	100%	-	-	+	-	+	-	+	n	n	+	+	1
Acetylene Dichloride => Dichloro Ethylene														
Acetylene Tetrachloride => Tetrachloro Ethane														
Acrylonitril	CH ₂ =CH-CN	100%	-	-	+	+	+	-	-	-	-	+	+	3
Adipic Acid	HOOC(CH ₂) ₄ COOH	s	+	+	+	+	+	+	+	-	+/o	+	+	1
Allyl Alcohol	CH ₂ CHCH ₂ OH	96%	-	o	+	+	+	-	+	-	o	+	+/o	2
Aluminium Acetate	Al(CH ₃ COO) ₃	s	+	+	+	+	+	+	+	+	+	+	+/o	1
Aluminium Bromide	AlBr ₃	s	+	+	+	+	n	+	+	+	+	+	+	2
Aluminium Chloride	AlCl ₃	s	+	+	+	+	-	+	+	+	+	+	+	1
Aluminium Fluoride	AlF ₃	10%	+	+	+	+	-	+	+	+	+	+	+/o	1
Aluminium Hydroxide	Al(OH) ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Aluminium Nitrate	Al(NO ₃) ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Aluminium Phosphate	AlPO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Aluminium Sulphate	Al ₂ (SO ₄) ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Ammonium Acetate	CH ₃ COONH ₄	s	+	+/o	+	+	+	+	+	+	+	+	+	1
Ammonium Bicarbonate	NH ₄ HCO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Ammonium Carbonate	(NH ₄) ₂ CO ₃	40%	+	+	+	+	+	+	+	+	+	+	+	1
Ammonium Chloride	NH ₄ Cl	s	+	+	+	+	-	+	+	+	+	+	+/o	1
Ammonium Fluoride	NH ₄ F	s	+	o	+	+	o	+	+	+	+	+	+	1
Ammonium Hydroxide	"NH ₄ OH"	30%	+	+	+	+	+	-	+	+	+	+	+	2
(25 °C)														
Ammonium Nitrate	NH ₄ NO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Ammonium Oxalate	(COONH ₄) ₂ * H ₂ O	s	+	+	+	+	+	+	+	+	+	+	+	1
Ammonium Perchlorate	NH ₄ ClO ₄	10%	+	+	+	+	+	+	+	+	+	+	+	1
Ammonium Peroxodisulphate	(NH ₄) ₂ S ₂ O ₈	s	+	+	+	+	5%	+	+	+	+	+	5%	2
Ammonium Phosphate	(NH ₄) ₃ PO ₄	s	+	+	+	+	10%	+	+	+	+	+	10%	1
Ammonium Sulphate	(NH ₄) ₂ SO ₄	s	+	+	+	+	10%	+	+	+	+	+	10%	1
Ammonium Sulphide	(NH ₄) ₂ S	s	+	+	+	+	n	+	+	n	n	+	n	2
Ammoniumaluminium Sulphate	NH ₄ Al(SO ₄) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Amyl Alcohol	C ₅ H ₁₁ OH	100%	+	+	+	+	+	-	+	-	-	+	+	1
Aniline	C ₆ H ₅ NH ₂	100%	-	-	+	+	+	-	+/o	-	o	+	+	2
Aniline Hydrochloride	C ₆ H ₅ NH ₂ * HCl	s	n	+	+	+	-	+/o	+/o	-	o	+	+	2
Antimony Trichloride	SbCl ₃	s	+	+	+	+	-	+	+	+	+	+	n	2
Aqua Regia	3 HCl + HNO ₃	100%	-	+	-	+	-	-	o	-	-	-	-	2
Arsenic Acid	H ₃ AsO ₄	s	+	+	+	+	+	+	+	20%	o	+	+	3
Barium Carbonate	BaCO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Barium Chloride	BaCl ₂	s	+	+	+	+	-	+	+	+	+	+	+	1
Barium Hydroxide	Ba(OH) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Barium Nitrate	Ba(NO ₃) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Barium Sulphate	BaSO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Barium Sulphide	BaS	s	+	+	+	+	+	+	+	+	+	+	+	(1)
Benzaldehyde	C ₆ H ₅ CHO	100%	-	-	+	-	+	+	+	-	-	o	+	1
Benzene	C ₆ H ₆	100%	-	-	o	+	+	o	-	-	-	o	+	3
Benzene Sulphonic Acid	C ₆ H ₅ SO ₃ H	10%	n	n	+	+	+	+	-	-	-	n	+	2
Benzoic Acid	C ₆ H ₅ COOH	s	+	+	+	+	+	+	+	-	+/o	+	+	1
Benzoyl Chloride	C ₆ H ₅ COCl	100%	-	n	o	n	o	+	+	n	n	o	+	2



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Benzyl Alcohol	C ₆ H ₅ CH ₂ OH	100%	-	-	+	+	+	+	-	-	+	+	+	1
Benzyl Benzoate	C ₆ H ₅ COOC ₇ H ₇	100%	-	-	+	o	+	+	-	-	-	+	+	2
Benzyl Chloride	C ₆ H ₅ CH ₂ Cl	90%	-	n	o	+	+	+	-	-	-	o	+	2
Bitter Salt => Magnesium Sulphate														
Bleach => Sodium Hypochlorite														
Blue Vitriol => Copper Sulphate														
Borax => Sodium Tetraborate														
Boric Acid	H ₃ BO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Brine		s	+	+/o	+	+	+/o	+	+	+	+	+	+	1
Bromine (dry)	Br ₂	100%	-	-	-	+	-	-	-	-	-	-	+	2
Bromine Water	Br ₂ + H ₂ O	s	-	+	-	+	-	-	-	n	n	-	n	(2)
Bromo Benzene	C ₆ H ₅ Br	100%	n	n	o	+	+	o	-	-	-	o	+	2
Bromochloro Methane	CH ₂ BrCl	100%	-	-	-	+	+	n	+/o	-	-	o	+	2
Bromochlorotrifluoro Ethane	HCClBrCF ₃	100%	-	-	o	+	+	+	-	+	+	o	+	(3)
Butanediol	HOC ₄ H ₈ OH	10%	n	+	+	+	+	o	+	+	+	+	+	1
Butanetriol	C ₄ H ₁₀ O ₃	s	+	+	+	+	+	o	+	+	+	+	+	1
Butanol	C ₄ H ₉ OH	100%	-	+	+	+	+	o	+/o	-	-	+	+	1
Butyl Acetate	C ₇ H ₁₃ O ₂	100%	-	-	+	+	+	-	-	-	+/o	+	+	1
Butyl Acetate	CH ₃ COOC ₄ H ₉	100%	-	-	o	+	+	-	+/o	-	+/o	-	+	1
Butyl Alcohol => Butanol														
Butyl Amine	C ₄ H ₉ NH ₂	100%	n	n	n	-	+	-	-	n	n	+	+	1
Butyl Benzoate	C ₆ H ₅ COOC ₄ H ₉	100%	-	-	o	n	+	+	+	-	-	o	+	2
Butyl Mercaptane	C ₄ H ₉ SH	100%	n	n	n	+	n	+	-	n	n	n	n	3
Butyl Oleate	C ₂₂ H ₄₂ O ₂	100%	n	n	n	+	+	+	+/o	n	n	n	+	1
Butyl Stearate	C ₂₂ H ₄₄ O ₂	100%	o	n	n	+	+	+	-	n	n	n	+	1
Butyraldehyde	C ₃ H ₇ CHO	100%	-	n	+	n	+	-	+/o	-	-	+	+	1
Butyric Acid	C ₃ H ₇ COOH	100%	5%	20%	+	+	+	+	+	-	+/o	+	+	1
Calcium Acetate	(CH ₃ COO) ₂ Ca	s	+	+	+	+	+	+	+	+	+	+	+	1
Calcium Bisulphite	Ca(HSO ₃) ₂	s	+	+	+	+	+	+	+	+	+	+	+	(1)
Calcium Carbonate	CaCO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Calcium Chloride	CaCl ₂	s	+	+	+	+	-	+	+	+	+	+	+	1
Calcium Cyanide	Ca(CN) ₂	s	+	+	+	+	n	+	+	+	+	+	n	3
Calcium Hydroxide	Ca(OH) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Calcium Hypochlorite	Ca(OCl) ₂	s	+	+	o	+	-	o	+	+	+	+	+	2
Calcium Nitrate	Ca(NO ₃) ₂	s	+	50%	50%	+	+	+	+	+	+	+	+	1
Calcium Phosphate	Ca ₃ (PO ₄) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Calcium Sulphate	CaSO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Calcium Sulphide	CaS	s	+	+	+	+	n	+	+	+	+	+	+	(2)
Calcium Sulphite	CaSO ₃	s	+	+	+	+	+	+	+	+	+	+	+	(1)
Calcium Thiosulphate	CaS ₂ O ₃	s	+	+	+	+	-	+	+	+	+	+	+	1
Carbolic Acid => Phenole														
Carbon Disulphide	CS ₂	100%	-	-	o	+	+	+	-	-	-	o	+	2
Carbon Tetrachloride	CCl ₄	100%	-	-	-	+	+	+	-	-	-	o	+	3
Carbonic Acid	"H ₂ CO ₃ "	s	+	+	+	+	+	+	+	+	+	+	+	1
Caustic Potash => Potassium Hydroxide														
Caustic Soda => Sodium Hydroxide														
Chloric Acid	HClO ₃	20%	+	+	-	+	-	o	o	+	+	10%	+	2
Chlorinated Lime => Calcium Hypochlorite														
Chlorine Dioxide Solution	ClO ₂ + H ₂ O	0.5%	o	+	o	+	-	o	-	o	-	o	+	
Chlorine Water	Cl ₂ + H ₂ O	s	+	+	o	+	-	+	+	o	-	o	+	
Chloro Benzene	C ₆ H ₅ Cl	100%	-	-	+	+	+	+	-	-	-	o	+	2
Chloro Ethanol	ClCH ₂ CH ₂ OH	100%	-	-	+	o	+	-	o	-	+	+	+	3
Chloro Ethylbenzene	C ₆ H ₄ ClC ₂ H ₅	100%	-	-	o	n	+	o	-	-	-	o	+	(2)
Chloro Phenole	C ₆ H ₄ OHCl	100%	-	n	+	+	+	n	-	-	-	+	+	2
Chloro Toluene	C ₇ H ₈ Cl	100%	-	-	n	+	+	+	-	-	-	n	+	2
Chloroacetone	ClCH ₂ COCH ₃	100%	-	-	n	n	+	-	+	-	-	n	+	3
Chlorobutadiene	C ₄ H ₅ Cl	100%	-	-	n	n	+	+	-	-	-	n	+	1
Chloroform	CHCl ₃	100%	-	-	o	+	+	+	-	-	o	-	+	2
Chlorohydrin	C ₃ H ₅ OCl	100%	-	n	+	-	+	+	o	-	+	+	+	3
Chloroprene => Chlorobutadiene														
Chlorosulphonic Acid	SO ₂ (OH)Cl	100%	-	o	-	+	-	-	-	-	-	-	o	1
Chrome-alum => Potassium Chrome Sulphate														
Chromic Acid	H ₂ CrO ₄	50%	-	+	o	+	10%	+	-	o	o	+	10%	3



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Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Chromic-Sulphuric Acid	$K_2CrO_4 + H_2SO_4$	s	-	+*	-	+	n	n	n	-	-	-	n	3
Chromium Sulphate	$Cr_2(SO_4)_3$	s	+	+	+	+	+	+	+	+	+	+	+	1
Citric Acid	$C_6H_8O_7$	s	+	+	+	+	+	+	+	+	+	+	+	1
Cobalt Chloride	$CoCl_2$	s	+	+	+	+	-	+	+	+	+	+	+	2
Copper-II-Acetate	$Cu(CH_3COO)_2$	s	+	+	+	+	+	+	+	+	+	+	+	3
Copper-II-Arsenite	$Cu_3(AsO_3)_2$	s	+	+	+	+	+	+	+	+	+	+	+	3
Copper-II-Carbonate	$CuCO_3$	s	+	+	+	+	+	+	+	+	+	+	+	2
Copper-II-Chloride	$CuCl_2$	s	+	+	+	+	1%	+	+	+	+	+	+	2
Copper-II-Cyanide	$Cu(CN)_2$	s	+	+	+	+	+	+	+	+	+	+	+	(3)
Copper-II-Fluoride	CuF_2	s	+	+	+	+	+	+	+	+	+	+	+	(2)
Copper-II-Nitrate	$Cu(NO_3)_2$	s	+	+	+	+	+	+	+	+	+	+	+/o	2
Copper-II-Sulphate	$CuSO_4$	s	+	+	+	+	+	+	+	+	+	+	+	2
Cresols	$C_6H_4CH_3OH$	100%	o	o	+	+	+	+	-	-	-	+	+	2
Crotonaldehyde	$CH_3C_2H_2CHO$	100%	n	-	+	+	+	-	+	-	-	+	+	3
Cubic Nitre => Sodium Nitrate														
Cumene => Isopropyl Benzene														
Cyclo Hexane	C_6H_{12}	100%	+	-	+	+	+	+	-	-	-	+	o	1
Cyclohexanole	$C_6H_{11}OH$	100%	o	+/o	+	+	+	+	-	-	-	+	+	1
Cyclohexanone	$C_6H_{10}O$	100%	-	-	+	-	+	-	+/o	-	-	+	+	1
Cyclohexyl Alcohol => Cyclohexanol														
Cyclohexylamine	$C_6H_{11}NH_2$	100%	n	n	n	n	+	-	n	n	n	n	+	2
Decahydronaphthaline	$C_{10}H_{18}$	100%	-	+/o	o	+	n	o	-	-	-	o	+	2
Decaline => Decahydronaphthalene														
Dextrose => Glucose														
Diacetonolalcohol	$C_6H_{12}O_2$	100%	-	-	+	o	+	-	+	-	-	+	+	1
Dibromoethane	$C_2H_4Br_2$	100%	-	-	n	+	+	+	-	-	-	-	+	3
Dibutyl Ether	$C_4H_9OC_4H_9$	100%	-	-	+	+	+	-	o	-	-	+	+	2
Dibutyl Phthalate	$C_{16}H_{22}O_4$	100%	-	-	+	+	+	+	+/o	o	+	o	+	2
Dibutylamine	$(C_4H_9)_2NH$	100%	n	n	+	+	+	-	-	n	n	+	+	1
Dichloro Acetic Acid	$Cl_2CHCOOH$	100%	-	+	+	+	+	-	+	-	o	+	+	1
Dichloro Benzene	$C_6H_4Cl_2$	100%	-	-	o	+	+	+	-	-	-	o	+	2
Dichloro Butane	$C_4H_8Cl_2$	100%	-	-	o	+	+	+	-	-	-	o	+	3
Dichloro Butene	$C_4H_6Cl_2$	100%	-	-	o	+	+	o	-	-	-	o	+	3
Dichloro Ethane	$C_2H_4Cl_2$	100%	-	-	o	+	+	+	-	-	o	-	+	3
Dichloro Ethylene	$C_2H_2Cl_2$	100%	-	-	o	+	+	o	-	-	o	-	+	2
Dichloro Methane	CH_2Cl_2	100%	-	-	o	o	o	+	-	-	o	-	+	2
Dichloroisopropyl Ether	$(C_3H_7Cl)_2O$	100%	-	-	o	n	+	o	o	-	-	o	+	(2)
Dicyclohexylamine	$(C_6H_{12})_2NH$	100%	-	-	o	n	+	-	-	-	-	o	+	2
Diethyleneglycol	$C_4H_{10}O_3$	s	+	+	+	+	+	+	+	+	+	+	+	1
Diethyleneglycolethyl Ether	$C_8H_{18}O_3$	100%	n	n	+	+	+	n	+/o	-	o	+	+	1
Diethylether	$C_2H_5OC_2H_5$	100%	-	-	o	+	+	-	-	-	o	o	+	1
Diglycolic Acid	$C_4H_6O_5$	30%	+	+	+	+	+	+	n	+	+/o	+	+	3
Dihexyl Phthalate	$C_{20}H_{26}O_4$	100%	-	-	+	+	+	-	n	o	+	+	+	(1)
Diisobutylketone	$C_9H_{18}O$	100%	-	-	+	+	+	-	+	-	-	+	+	1
Di-iso-nonyl Phthalate	$C_{26}H_{42}O_4$	100%	-	-	+	+	+	n	n	o	+	+	+	1
Diisopropylketone	$C_7H_{14}O$	100%	-	-	+	+	+	-	+	-	-	+	+	1
Dimethyl Carbonate	$(CH_3O)_2CO$	100%	n	n	+	+	+	+	-	n	n	+	+	1
Dimethyl Ketone => Acetone														
Dimethyl Phthalate	$C_{10}H_{10}O_4$	100%	-	-	+	+	+	-	+/o	o	+	+	+	1
Dimethylformamide	$HCON(CH_3)_2$	100%	-	-	+	-	+	-	+	-	+/o	+	+	1
Dimethylhydrazine	$H_2NN(CH_3)_2$	100%	n	n	+	n	+	-	+	n	n	+	+	3
Diocetyl Phthalate	$C_{44}H_{88}O_4$	100%	-	-	+	+	+	-	+/o	o	+	+	+	1
Dioxane	$C_4H_8O_2$	100%	-	-	o	-	+	-	+/o	-	-	+	+	1
Disodium Hydrogenphosphate	Na_2HPO_4	s	+	+	+	+	+	+	+	+	+	+	+	1
Disulfur Acid -- Oleum														
Disulphur Dichloride	S_2Cl_2	100%	n	n	n	+	n	+	-	-	-	n	n	
DMF => Dimethylformamide														
Engine Oils		100 %	n	+/o	+	+	+	+	-	-	-	+	+	2
Epsom salts => Magnesium Sulphate														
Ethanol	C_2H_5OH	100%	-	+	+	+	+	-	+	-	+	+	+	1
Ethanol Amine	$HOC_2H_4NH_2$	100%	o	n	+	-	+	-	+/o	-	o	+	+	1
Ethyl Acetate	$CH_3COOC_2H_5$	100%	-	-	35%	+	+	-	+/o	-	+/o	+	+	1
Ethyl Acrylate	$C_2H_3COOC_2H_5$	100%	-	-	+	o	+	-	+/o	-	-	+	+	2



ProMinent® Chemical Resistance List

Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Ethyl Benzene	C ₆ H ₅ -C ₂ H ₅	100%	-	-	o	+	+	o	-	-	-	o	+	1
Ethyl Benzoate	C ₆ H ₅ COOC ₂ H ₅	100%	n	-	+	o	+	+	-	-	-	+	+	1
Ethyl Bromide	C ₂ H ₅ Br	100%	-	n	+	+	n	+	-	-	o	+	+	2
Ethyl Chloroacetate	ClCH ₂ COOC ₂ H ₅	100%	-	o	+	+	+	+	-	-	-	+	+	2
Ethyl Chlorocarbonate	ClCO ₂ C ₂ H ₅	100%	n	n	n	n	n	+	-	n	n	n	n	(2)
Ethyl Cyclopentane	C ₅ H ₄ C ₂ H ₅	100%	+	+	+	+	+	+	-	-	-	+	+	(1)
Ethylacetoacetate	C ₆ H ₁₀ O ₃	100%	n	-	+	+	+	-	+/o	-	+/o	+	+	1
Ethylacrylic Acid	C ₄ H ₇ COOH	100%	n	n	+	+	+	n	+/o	n	n	+	+	(1)
Ethylene Diamine	(CH ₂ NH ₂) ₂	100%	o	o	+	-	o	-	+	n	n	+	o	2
Ethylene Dibromide => Dibromoethane														
Ethylene Dichloride => Dichloro Ethane														
Ethylene Glycol => Glycol														
Ethylenglycol Ethylether	HOC ₂ H ₄ OC ₂ H ₅	100%	n	n	+	+	+	n	+/o	-	o	+	+	1
Ethylhexanol	C ₈ H ₁₆ O	100%	n	+/o	+	+	+	+	+	-	-	+	+	2
Fatty Acids	R-COOH	100%	+	+	+	+	+	+	o	-	o	+	+	1
Ferric Chloride	FeCl ₃	s	+	+	+	+	-	+	+	+	+	+	+/o	1
Ferric Nitrate	Fe(NO ₃) ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Ferric Phosphate	FePO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Ferric Sulphate	Fe ₂ (SO ₄) ₃	s	+	+	+	+	o	+	+	+	+	+	+	1
Ferrous Chloride	FeCl ₂	s	+	+	+	+	-	+	+	+	+	+	+/o	1
Ferrous Sulphate	FeSO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Fixing Salt => Sodium Thiosulphate														
Fluoro Benzene	C ₆ H ₅ F	100%	-	-	+	+	+	o	-	-	-	o	+	2
Fluoroboric Acid	HBF ₄	35%	+	+	+	+	o	+	+	+	-	+	+	1
Fluorosilicic Acid	H ₂ SiF ₆	100%	+	30%	30%	+	o	+	+	25%	o	40%	+/o	2
Formaldehyde	CH ₂ O	40%	+	+	+	+	+	-	+/o	-	-	+	+	2
Formalin => Formaldehyde														
Formamide	HCONH ₂	100%	+	-	+	+	+	+	+	n	n	+	+	1
Formic Acid	HCOOH	s	-	+/o	+	+	+	-	-	+/o	+/o	+	+	1
Furane	C ₄ H ₄ O	100%	-	-	+	-	+	-	n	-	-	+	+	3
Furane Aldehyde	C ₅ H ₂ O ₂	100%	n	n	n	o	+	-	+/o	-	-	n	n	2
Furfuryl Alcohol	OC ₄ H ₃ CH ₂ OH	100%	-	-	+	o	+	n	+/o	-	-	+	+	1
Gallic Acid	C ₆ H ₂ (OH) ₃ COOH	5%	+	+	+	+	+	+	+/o	+	+	+	+	1
Gasoline		100 %	-	-	+	+	+	+	-	-	-	+	+	2
Glauber's Salt => Sodium Sulphate														
Glucose	C ₆ H ₁₂ O ₆	s	+	+	+	+	+	+	+	+	+	+	+	1
Glycerol	C ₃ H ₅ (OH) ₃	100%	+	+	+	+	+	+	+	+	+	+	+	1
Glycerol Triacetate	C ₃ H ₅ (CH ₃ COO) ₃	100%	n	n	+	+	+	-	+	n	n	+	+	1
Glycine	NH ₂ CH ₂ COOH	10%	+	+	+	+	+	+	+	+	+	+	+	1
Glycol	C ₂ H ₄ (OH) ₂	100%	+	+	+	+	+	+	+	+	+	+	+	1
Glycolic Acid	CH ₂ OHCOOH	70%	+	37%	+	+	+	+	+	+	+/o	+	+	1
Gypsum => Calcium Sulphate														
Heptane	C ₇ H ₁₆	100%	+	+	+	+	+	+	-	-	-	+	+	1
Hexachloroplatinic Acid	H ₂ PtCl ₆	s	n	+	+	+	-	n	+	n	n	+	-	
Hexanal	C ₅ H ₁₁ CHO	100%	n	n	+	+	+	-	+/o	-	-	+	+	1
Hexane	C ₆ H ₁₄	100%	+	+	+	+	+	+	-	-	-	+	+	1
Hexanol	C ₆ H ₁₃ OH	100%	-	-	+	+	+	n	+	-	o	+	+	1
Hexantriol	C ₆ H ₉ (OH) ₃	100%	n	n	+	+	+	+	+	n	n	+	+	1
Hexene	C ₆ H ₁₂	100%	n	+	+	+	+	+	-	-	-	+	+	1
Hydrazine Hydrate	N ₂ H ₄ * H ₂ O	s	+	+	+	+	+	n	+	-	o	+	+	3
Hydrobromic Acid	HBr	50%	+	+	+	+	-	-	+	+	-	+	o	1
Hydrochloric Acid	HCl	38%	32%	+	+	+	-	+	o	+	o	+	o	1
Hydrofluoric Acid	HF	80%	-	40%	40%	+	-	+	o	40%	-	40%	+/o	1
Hydrogen Cyanide	HCN	s	+	+	+	+	+	+	+	+	+	+	+	3
Hydrogen Peroxide	H ₂ O ₂	90%	40%	40%*	30%	+	+	30%	30%	30%	+	+	+	1
Hydroiodic Acid	HI	s	+	+	+	+	-	-	n	+	-	+	n	1
Hydroquinone	C ₆ H ₄ (OH) ₂	s	o	+	+	+	+	+	-	+	+/o	+	+	2
Hydroxylamine Sulphate	(NH ₂ OH) ₂ * H ₂ SO ₄	10%	+	+	+	+	+	+	+	+	+	+	+	2
Hypochlorous Acid	HOCl	s	+	+	o	+	-	+	+/o	+	+	o	+	(1)
Iodine	I ₂	s	o	-	+	+	-	+	+/o	+	+	o	+/o	
Iron Vitriol => Ferrous Sulphate														
Isobutanol => Isobutyl Alcohol														
Isobutyl Alcohol	C ₂ H ₅ CH(OH)CH ₃	100%	-	+	+	+	+	+	+	-	o	+	+	1



ProMinent® Chemical Resistance List

Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Isopropanol => Isopropyl Alcohol														
Isopropyl Acetate	CH ₃ COOCH(CH ₃) ₂	100%	-	-	+	+	+	-	+/o	-	+/o	+	+	1
Isopropyl Alcohol	(CH ₃) ₂ CHOH	100%	-	+/o	+	+	+	+	+	-	o	+	+	1
Isopropyl Benzene	C ₆ H ₅ CH(CH ₃) ₂	100%	-	-	o	+	+	+	-	-	-	o	+	1
Isopropyl Chloride	CH ₃ CHClCH ₃	80%	-	-	o	+	+	+	-	-	o	o	+/o	2
Isopropyl Ether	C ₆ H ₁₄ O	100%	-	-	o	+	+	-	-	-	o	o	+	1
Kitchen Salt => Sodium Chloride														
Lactic Acid	C ₃ H ₆ O ₃	100%	-	+	+	+	+/o	+	10%	-	+/o	+	+	1
Lead Acetate	Pb(CH ₃ COO) ₂	s	+	+	+	+	+	+	+	+	+	+	+	2
Lead Nitrate	Pb(NO ₃) ₂	50%	+	+	+	+	+	+	+	+	+	+	+	2
Lead Sugar => Lead Acetate														
Lead Sulphate	PbSO ₄	s	+	+	+	+	+	+	+	+	+	+	+	(2)
Lead Tetraethyl	Pb(C ₂ H ₅) ₄	100%	+	+	+	+	+	+	-	n	n	+	+	3
Lime Milk => Calcium Hydroxide														
Liquid Ammonia => Ammonium Hydroxide														
Lithium Bromide	LiBr	s	+	+	+	+	+	+	+	+	+	+	+	1
Lithium Chloride	LiCl	s	+	+	+	+	-	+	+	+	+	+	n	1
Lunar Caustic => Silver Nitrate														
Magnesium Carbonate	MgCO ₃	s	+	+	+	+	+	+	+	+	+	+	+/o	1
Magnesium Chloride	MgCl ₂	s	+	+	+	+	o	+	+	+	+	+	+	1
Magnesium Hydroxide	Mg(OH) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Magnesium Nitrate	Mg(NO ₃) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Magnesium Sulphate	MgSO ₄	s	+	+	+	+	+	+	+	+	+	+	+/o	1
Maleic Acid	C ₄ H ₄ O ₄	s	+	+	+	+	+	+	+	-	o	+	+	1
Malic Acid	C ₄ H ₆ O ₅	s	+	+	+	+	+	+	+	+	+	+	+	1
Manganese-II-Chloride	MnCl ₂	s	+	+	+	+	-	+	+	+	+	+	+	1
Manganese-II-Sulphate	MnSO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
MEK => Methyl Ethyl Ketone														
Mercury	Hg	100%	+	+	+	+	+	+	+	+	+	+	+	3
Mercury-II-Chloride	HgCl ₂	s	+	+	+	+	-	+	+	+	+	+	+	3
Mercury-II-Cyanide	Hg(CN) ₂	s	+	+	+	+	+	+	+	+	+	+	+	3
Mercury-II-Nitrate	Hg(NO ₃) ₂	s	+	+	+	+	+	+	+	+	+	+	+	3
Mesityl Oxide	C ₆ H ₁₀ O	100%	-	-	n	n	+	-	+/o	-	-	n	+	1
Methacrylic Acid	C ₃ H ₅ COOH	100%	n	n	+	+	+	o	+/o	-	+/o	+	+	1
Methanol	CH ₃ OH	100%	-	-	+	+	+	o	+	-	+/o	+	+	1
Methoxybutanol	CH ₃ O(CH ₂) ₄ OH	100%	-	-	+	+	+	+	o	-	o	+	+	(1)
Methyl Acetate	CH ₃ COOCH ₃	60%	-	-	+	+	+	-	+/o	-	+/o	+	+	2
Methyl Acrylate	C ₂ H ₃ COOCH ₃	100%	-	-	+	+	+	-	+/o	-	o	+	+	2
Methyl Benzoate	C ₆ H ₅ COOCH ₃	100%	-	-	+	o	+	+	-	-	-	+	+	2
Methyl Catechol	C ₆ H ₃ (OH) ₂ CH ₃	s	+	+	+	+	+	+	-	+	+o	+	+	(1)
Methyl Cellulose		s	+	+	+	+	+	+	+	+	+	+	+	1
Methyl Chloroacetate	ClCH ₂ COOCH ₃	100%	-	o	+	+	+	o	-	-	-	+	+	2
Methyl Cyclopentane	C ₅ H ₉ CH ₃	100%	+	+	+	+	+	+	-	-	-	+	+	(1)
Methyl Dichloroacetate	Cl ₂ CHCOOCH ₃	100%	-	-	+	n	+	-	n	-	-	+	+	2
Methyl Ethyl Ketone	CH ₃ COC ₂ H ₅	100%	-	-	+	-	+	-	+	-	-	+	+	1
Methyl Glycol	C ₃ H ₈ O ₂	100%	+	+	+	+	+	-	+/o	+	+	+	+	1
Methyl Isobutyl Ketone	CH ₃ COC ₄ H ₉	100%	-	-	+	-	+	-	o	-	-	+	+	1
Methyl Isopropyl Ketone	CH ₃ COC ₃ H ₇	100%	-	-	+	-	+	-	+/o	-	-	+	+	1
Methyl Methacrylate	C ₃ H ₅ COOCH ₃	100%	-	-	+	+	+	-	-	-	-	+	+	1
Methyl Oleate	C ₁₇ H ₃₃ COOCH ₃	100%	n	n	+	+	+	+	+/o	n	n	+	+	1
Methyl Salicylate	HOOC ₆ H ₄ COOCH ₃	100%	-	-	+	+	+	n	+/o	-	-	+	+	1
Methylacetyl Acetate	C ₅ H ₈ O ₃	100%	-	-	+	+	+	-	+/o	-	o	+	+	2
Methylamine	CH ₃ NH ₂	32%	+	o	+	o	+	-	+	+	+	+	+	2
Methylene Chloride => Dichloro Methane														
Mirabilite => Sodium Sulphate														
Morpholine	C ₄ H ₉ ON	100%	-	-	+	-	+	n	n	-	-	+	+	2
Muriatic Acid => Hydrochloric Acid														
Natron => Sodium Bicarbonate														
Nickel-II-Acetate	(CH ₃ COO) ₂ Ni	s	+	+	+	+	+	-	+	+	+	+	+	(2)
Nickel-II-Chloride	NiCl ₂	s	+	+	+	+	-	+	+	+	+	+	+	2
Nickel-II-Nitrate	Ni(NO ₃) ₂	s	+	+	+	+	+	+	+	+	+	+	+/o	2
Nickel-II-Sulphate	NiSO ₄	s	+	+	+	+	+	+	+	+	+	+	+/o	2
Nitrate of Lime => Calcium Nitrate														



ProMinent® Chemical Resistance List

Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Nitric Acid	HNO ₃	99%	10%	10%*	50%	65%	50%	65%	10%	35%	35%	50%	65%	1
Nitro Methane	CH ₃ NO ₂	100%	-	-	+	o	+	-	+/-	-	-	+	+	2
Nitro Propane	(CH ₃) ₂ CHNO ₂	100%	-	-	+	n	+	-	+/-	-	-	+	+	2
Nitro Toluene	C ₆ H ₄ NO ₂ CH ₃	100%	-	-	+	+	+	o	-	-	-	+	+	2
Octane	C ₈ H ₁₈	100%	o	+	+	+	+	+	-	-	-	+	+	1
Octanol	C ₈ H ₁₇ OH	100%	-	-	+	+	+	+	+	-	-	+	+	1
Octyl Cresol	C ₁₅ H ₂₄ O	100%	-	-	+	+	+	o	n	-	-	+	+	(1)
Oil => Engine Oils														
Oleum	H ₂ SO ₄ + SO ₃	s	n	-	-	-	+	+	-	+	+	-	+	2
Orthophosphoric Acid => Phosphoric Acid														
Oxalic Acid	(COOH) ₂	s	+	+	+	+	10%	+	+	+/-	+/-	+	+/-	1
Pentane	C ₅ H ₁₂	100%	+	+	+	+	+	+	-	-	-	+	+	1
Pentanol => Amyl Alcohol														
Perchloric Acid	HClO ₄	70%	n	10%	10%	+	-	+	+/-	o	+	+	n	1
Perchloroethylene => Tetrachloro Ethylene														
Perhydrol => Hydrogen Peroxide														
Petroleum Ether	C _n H _{2n+2}	100%	+	+/-	+	+	+	+	-	-	-	+	+	1
Phenole	C ₆ H ₅ OH	100%	-	-	+	+	+	+	-	10%	+	+	+	2
Phenyl Ethyl Ether	C ₆ H ₅ OC ₂ H ₅	100%	-	-	+	n	+	-	-	-	-	+	+	2
Phenyl Hydrazine	C ₆ H ₅ NHNH ₂	100%	-	-	o	+	+	o	-	-	-	o	+	2
Phosphoric Acid	H ₃ PO ₄	85%	50%	+	+	+	+	+	+	+	+	+	+	1
Phosphorous Oxychloride	POCl ₃	100%	-	-	+	+	n	+	+	n	n	+	+	1
Phosphorous Trichloride	PCl ₃	100%	-	-	+	+	+	o	+	+	+/-	+	+	1
Phthalic Acid	C ₆ H ₄ (COOH) ₂	s	+	+	+	+	+	+	+	-	+	+	+	1
Picric Acid	C ₆ H ₂ (NO ₃) ₃ OH	s	+	+	+	+	+	+	+	+	-	+	+	2
Piperidine	C ₅ H ₁₁ N	100%	-	-	n	n	+	-	-	-	-	n	+	2
Potash Alum => Potassium Aluminium Sulphate														
Potassium Acetate	CH ₃ COOK	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Aluminium Sulphate	KAl(SO ₄) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Bicarbonate	KHCO ₃	40%	+	+	+	+	+	+	+	+	+	+	+/-	1
Potassium Bifluoride	KHF ₂	s	n	+	+	+	+	+	+	+	+	+	+	1
Potassium Bisulphate	KHSO ₄	5%	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Bitartrate	KC ₄ H ₅ O ₆	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Borate	KBO ₂	s	+	+	+	+	+	+	+	+	+	+	+	(1)
Potassium Bromate	KBrO ₃	s	+	+	+	+	+	+	+	+	+	+	+	2
Potassium Bromide	KBr	s	+	+	+	+	10%	+	+	+	+	+	0,1	1
Potassium Carbonate	K ₂ CO ₃	s	+	+	+	+	+	+	+	55%	55%	+	+	1
Potassium Chlorate	KClO ₃	s	+	+	+	+	+	+	+	+	+	+	+	2
Potassium Chloride	KCl	s	+	+	+	+	-	+	+	+	+	+	+/-	1
Potassium Chromate	K ₂ CrO ₄	10%	+	+	+	+	+	+	+	+	+	+	+	3
Potassium Chrome Sulphate	KCr(SO ₄) ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Cyanate	KOCN	s	+	+	+	+	+	+	+	+	+	+	+	2
Potassium Cyanide	KCN	s	+	+	+	+	5%	+	+	+	+	+	5%	3
Potassium Cyanoferrate II	K ₄ Fe(CN) ₆	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Cyanoferrate III	K ₃ Fe(CN) ₆	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Dichromate	K ₂ Cr ₂ O ₇	s	+	+	+	+	25%	+	+	+	+	+	10%	3
Potassium Fluoride	KF	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Hydroxyde	KOH	50%	+	+	+	+	+	-	+	10%	10%	+	+	1
(25 °C)														
Potassium Iodide	KI	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Nitrate	KNO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Perchlorate	KClO ₄	s	+	+	+	+	n	+	+	+	+	+	+	1
Potassium Permanganate	KMnO ₄	s	+	+	+	+	+	+	+	6%	6%	+	+	2
Potassium Persulphate	K ₂ S ₂ O ₈	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Phosphate	KH ₂ PO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Pyrochromate => Potassium Dichromate														
Potassium Sulphate	K ₂ SO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Potassium Sulphite	K ₂ SO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Propionic Acid	C ₂ H ₅ COOH	100%	o	+	+	+	+	+	+	-	+/-	+	+	1
Propionitrile	CH ₃ CH ₂ CN	100%	n	n	+	+	+	+	-	-	-	+	+	2
Propyl Acetate	CH ₃ COOC ₃ H ₇	100%	-	-	+	+	+	-	+/-	-	-	+	+	1
Propylene Glycol	CH ₃ CHOHCH ₂ OH	100%	+	+	+	+	+	+	+	+	+	+	+	1
Prussic Acid => Hydrogen Cyanide														
Pyridine	C ₅ H ₅ N	100%	-	-	o	-	+	-	-	-	o	+	+	2



ProMinent® Chemical Resistance List

Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Pyrrrole	C ₄ H ₄ NH	100%	n	n	+	n	+	-	-	-	-	+	+	2
Roman Vitriol => Copper Sulphate														
Salicylic Acid	HOC ₆ H ₄ COOH	s	+	+	+	+	+	+	+	+	+	+	+/o	1
Salmiac => Ammonium Chloride														
Saltpeter => Potassium Nitrate														
Silic Acid	SiO ₂ * x H ₂ O	s	+	+	+	+	+	+	+	+	+	+	+	1
Silver Bromide	AgBr	s	+	+	+	+	+/o	+	+	+	+	+	+	1
Silver Chloride	AgCl	s	+	+	+	+	-	+	+	+	+	+	+/o	1
Silver Nitrate	AgNO ₃	s	+	+	+	+	+	+	+	+	+	+	+/o	3
Slaked Lime => Calcium Hydroxide														
Soda => Sodium Carbonate														
Sodium Acetate	NaCH ₃ COO	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Benzoate	C ₆ H ₅ COONa	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Bicarbonate	NaHCO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Bisulphate	NaHSO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Bisulphite	NaHSO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Borate	NaBO ₂	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Bromate	NaBrO ₃	s	+	+	+	+	+	+	+	+	+	+	+	3
Sodium Bromide	NaBr	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Carbonate	Na ₂ CO ₃	s	+	+	+	+	+/o	+	+	+	+	+	+	1
Sodium Chlorate	NaClO ₃	s	+	+	+	+	+	+	+	+	+	+	+	2
Sodium Chloride	NaCl	s	+	+	+	+	-	+	+	+	+	+	+	1
Sodium Chlorite	NaClO ₂	24%	+	+	+	+	10%	+	+	+	+	+	10%	2
Sodium Chromate	Na ₂ CrO ₄	s	+	+	+	+	+	+	+	+	+	+	+	3
Sodium Cyanide	NaCN	s	+	+	+	+	+	+	+	+	+	+	+	3
Sodium Dichromate	Na ₂ Cr ₂ O ₇	s	+	+	+	+	+	+	+	+	+	+	+	3
Sodium Dithionite	Na ₂ S ₂ O ₄	s	+	10%	10%	+	+	n	n	+	+	10%	+/o	1
Sodium Fluoride	NaF	s	+	+	+	+	10%	+	+	+	+	+	+	1
Sodium Hydrogen Sulphate => Sodium Bisulphate														
Sodium Hydroxide	NaOH	50%	+	+	+	+	+	-	+	10%	30%	+	+	1
(60%/ 25 °C)														
Sodium Hypochlorite	NaOCl + NaCl	12%	+	+	o	+	-	+	+	+	+	o	> 10%	2
Sodium Iodide	NaI	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Metaphosphate	(NaPO ₃) _n	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Nitrate	NaNO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Nitrite	NaNO ₂	s	+	+	+	+	+	+	+	+	+	+	+	2
Sodium Oxalate	Na ₂ C ₂ O ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Perborate	NaBO ₂ *H ₂ O ₂	s	+	+/o	+	+	+	+	+	+	+	+	+/o	1
Sodium Perchlorate	NaClO ₄	s	+	+	+	+	10%	+	+	+	+	+	10%	1
Sodium Peroxide	Na ₂ O ₂	s	+	+	+	+	+	+	+	n	n	-	+	1
Sodium Persulphate	Na ₂ S ₂ O ₈	s	n	+	+	+	+	+	+	+	+	+	+	1
Sodium Pyrosulphite	Na ₂ S ₂ O ₅	s	+	+	+	+	+	n	n	+	+	+	+	1
Sodium Salicylate	C ₆ H ₄ (OH)COONa	s	+	+/o	+	+	+	+	+	+	+	+	+	1
Sodium Silicate	Na ₂ SiO ₃	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Sulphate	Na ₂ SO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Sulphide	Na ₂ S	s	+	+	+	+	+	+	+	+	+	+	+	2
Sodium Sulphite	Na ₂ SO ₃	s	+	+	+	+	50%	+	+	+	+	+	50%	1
Sodium Tetraborate	Na ₂ B ₄ O ₇ * 10 H ₂ O	s	+	+	+	+	+	+	+	+	+	+	+	1
Sodium Thiosulphate	Na ₂ S ₂ O ₃	s	+	+	+	+	25%	+	+	+	+	+	25%	1
Sodium Tripolyphosphate	Na ₅ P ₃ O ₁₀	s	+	+	+	+	+	+/o	+	+	+	+	+	1
Starch	(C ₆ H ₁₀ O ₅) _n	s	+	+	+	+	+	+	n	+	+	+	+	1
Starch Gum		s	+	+	+	+	+	+	+	+	+	+	+	1
Styrene	C ₆ H ₅ CHCH ₂	100%	-	-	o	+	+	o	-	-	-	o	+	2
Sublimate => Mercury-II-Chloride														
Succinic Acid	C ₄ H ₆ O ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Sugar Syrup		s	+	+	+	+	+	+	+	+	+	+	+	1
Sulphur Chloride => Disulphur Dichloride														
Sulphuric Acid	H ₂ SO ₄	98%	30%	50%	85%	+	20%	+	+	30%	30%	80%	+	1
Sulphuric Acid, fuming --> Oleum														
Sulphurous Acid	H ₂ SO ₃	s	+	+	+	+	10%	+	+	+	+	+	+	(1)
Sulphuryl Chloride	SO ₂ Cl ₂	100%	-	-	-	o	n	+	o	-	-	-	n	1
Tannic Acid	C ₇₆ H ₅₂ O ₄₆	50%	+	+	+	+	+	+	+	+	+	+	+	1
Tartaric Acid	C ₄ H ₆ O ₆	s	50%	+	+	+	+	+	+/o	+	+	+	+	1



ProMinent® Chemical Resistance List

Chemical	Formula	Conc	Acryl	PVC	PP	PVDF	1.4404	FPM	EPDM	Tygon	PharMed	PE	HastelloyC	WPC
Tetrachloro Ethane	C ₂ H ₂ Cl ₄	100%	-	-	o	+	+	o	-	-	o	o	+	3
Tetrachloro Ethylene	C ₂ Cl ₄	100%	-	-	o	+	+	o	-	-	o	o	+	3
Tetrachloromethane => Carbon Tetrachloride														
Tetrahydro Furane	C ₄ H ₈ O	100%	-	-	o	-	+	-	-	-	-	o	+	1
Tetrahydro Naphthalene	C ₁₀ H ₁₂	100%	-	-	-	+	+	+	-	-	-	o	+	3
Tetralin => Tetrahydro Naphthalene														
THF => Tetrahydrofurane														
Thionyl Chloride	SOCl ₂	100%	-	-	-	+	n	+	+	+	+	-	n	1
Thiophene	C ₄ H ₄ S	100%	n	-	o	n	+	-	-	-	-	o	+	3
Tin-II-Chloride	SnCl ₂	s	+	o	+	+	-	+	+	+	+	+	+/o	1
Tin-II-Sulphate	SnSO ₄	s	n	+	+	+	+	+	+	+	+	+	+/o	(1)
Tin-IV-Chloride	SnCl ₄	s	n	+	+	+	-	+	+	+	+	+	+	1
Titanium Tetrachloride	TiCl ₄	100%	n	n	n	+	n	o	-	n	n	n	n	1
Toluene	C ₆ H ₅ CH ₃	100%	-	-	o	+	+	o	-	-	-	o	+	2
Toluene Diisocyanate	C ₇ H ₃ (NCO) ₂	100%	n	n	+	+	+	-	+/o	n	n	+	+	2
Tributyl Phosphate	(C ₄ H ₉) ₃ PO ₄	100%	n	-	+	+	+	-	+	o	+	+	+	1
Trichloro Ethane	CCl ₃ CH ₃	100%	-	-	o	+	+	+	-	-	o	o	+	3
Trichloro Ethylene	C ₂ HCl ₃	100%	-	-	o	+	+/o	o	-	-	o	o	+	3
Trichloro Methane => Chloroform														
Trichloroacetaldehyde Hydrate	CCl ₃ CH(OH) ₂	s	-	-	o	-	+	o	o	n	n	+	+	2
Trichloroacetic Acid	CCl ₃ COOH	50%	-	+	+	+	-	-	o	+	+/o	+	+	1
Tricresyl Phosphate	(C ₇ H ₇) ₃ PO ₄	90%	-	-	+	n	+	o	+	o	+	+	+	2
Triethanol Amine	N(C ₂ H ₄ OH) ₃	100%	+	o	+	n	+	-	+/o	-	o	+	+	1
Trilene => Trichloro Ethane														
Trioctyl Phosphate	(C ₈ H ₁₇) ₃ PO ₄	100%	n	-	+	+	+	o	+	o	+	+	+	2
Trisodium Phosphate	Na ₃ PO ₄	s	+	+	+	+	+	+	+	+	+	+	+	1
Urea	CO(NH ₂) ₂	s	+	+/o	+	+	+	+	+	20%	20%	+	+	1
Vinyl Acetate	CH ₂ =CHOOCCH ₃	100%	-	-	+	+	+	n	n	-	+/o	+	+	2
Water Glass => Sodium Silicate														
Xylene	C ₆ H ₄ (CH ₃) ₂	100%	-	-	-	+	+	o	-	-	-	o	+	2
Zinc Acetate	(CH ₃ COO) ₂ Zn	s	+	+	+	+	+	-	+	+	+	+	+	1
Zinc Chloride	ZnCl ₂	s	+	+	+	+	-	+	+	+	+	+	n	1
Zinc Sulphate	ZnSO ₄	s	+	+	+	+	+	+	+	+	+	+	+/o	1



ProMinent® Chemical Resistance List

Overview Of The Resistance Of Soft PVC Hoses (Guttasyn®) To The Most Common Chemicals

This data applies to standard conditions (20 °C, 1013 mbar).

+	=	resistant
o	=	conditionally resistant
-	=	not resistant

The data has been taken from relevant manufacturers' literature and supplemented by our own tests and experience. As the resistance of a material also depends on other factors, especially pressure and operating conditions etc, this list should merely be regarded as an initial guide and does not claim to offer any guarantees. Take into consideration the fact that conventional dosing agents are largely compounds, the corrosiveness of which cannot simply be calculated by adding together the corrosiveness of each individual component. In cases such as these the material compatibility data produced by the chemical manufacturer must be read as a matter of priority when selecting a material. Safety data sheets do not provide this information and cannot therefore replace application-specific documentation.

Corrosive agent	Concentration in %	Temperature in °C	Evaluation
Acetic acid	50	20	o
Acetic acid (wine vinegar)		20	o
Acetic acid (wine vinegar)		40	o
Acetic acid anhydride	100	20	-
Acetic acid, aqueous	6	20	+
Acetic acid, aqueous	6	40	o
Acetic acid, aqueous	6	60	o
Acetic ester	100	20	-
Acetone	all	20	-
Acetylene	100	20	o
Acetylene chlorohydrin solution		20	-
Acetylene tetrabromide	100	20	-
Aluminium salts, aqueous	all	40	+
Aluminium sulphate, aqueous	all	60	+
Alums of all kinds, aqueous	all	40	+
Ammonium salts	all	60	+
Ammonium, aqueous	15	40	+
Ammonium, aqueous	saturated	40	+
Aniline	100	20	-
Benzene	100	20	-
Benzine	100	20	o
Bisulphite, aqueous	all	40	+
Bisulphite, aqueous	all	60	o
Borax solution	all	40	+
Borax solution	all	60	o
Boric acid, aqueous	all	60	+
Bromine, vaporous and liquid		20	+
Buna latex		20	+
Butadiene	100	20	-
Butanol	100	20	-
Butyl acetate	100	20	-
Butyric acid, aqueous	20	20	o
Butyric acid, aqueous	conc.	20	-
Calcium chloride, aqueous	all	60	+
Carbon disulphide	100	20	-
Carbonic acid	all	40	+
Caustic potash	aqueous	20	+
Caustic potash	6	40	+
Caustic potash	6	60	o
Caustic potash	15	20	+
Caustic potash	30	20	o
Caustic potash	conc.	20	o
Caustic potash	conc.	40	-
Chlorinated hydrocarbons	all	20	-



ProMinent® Chemical Resistance List

Corrosive agent	Concentration in %	Temperature in °C	Evaluation
Chlorine, gaseous, moist	all	20	-
Chloromethyl	100	20	-
Chrome-alum, aqueous	all	40	+
Chromic acid, aqueous	0,5-10	20	+
Copper sulphate, aqueous	all	60	+
Creosote		20	-
Dextrin, aqueous	saturated	60	+
Diesel oils, compressed oils	100	40	o
Diesel oils, compressed oils	100	60	-
Difluorodichloromethane	100	20	o
Ethanol	96	20	-
Ethyl acetate	100	20	-
Ethyl ether	100	20	-
Ethylene glycol	100	40	o
Ethylene glycol	100	60	-
Fats, animal and plant	100	20	-
Fats, aqueous suspension		20	o
Ferric chloride, aqueous	all		+
Fixing bands, phat.		40	+
Formaldehyde, aqueous	30	20	o
Glacial acetic acid	100		-
Glucose, aqueous	saturated	20	+
Glycerol	100	20	o
Glycol	100	20	o
Halogens	all	20	-
Hydrochloric acid, aqueous	10	20	+
Hydrogen bromide	all	40	+
Hydrogen peroxide	to 30	20	+
Hydrogen sulphide, gaseous	100	20	o
Hydrogen sulphide, gaseous	100	40	-
Ink		30	+
Lead acetate, aqueous		20	+
Lubricating oil, spindle oil and similar	100	40	o
Lubricating oil, spindle oil and similar	100	60	-
Magnesium salts, aqueous	all	60	+
Methyl alcohol	100	20	-
Methylene chloride	100	20	-
Monobromine-naphtaline	100	20	-
Nickel salts, aqueous	all	60	+
Nitric acid	aqueous	20	+
Nitric acid, aqueous	6.3	20	+
Nitric acid, aqueous	6.3	40	o
Nitric acid, aqueous	6.3	60	o
Nitric acid, aqueous	15	20	+
Nitric acid, aqueous	65	20	o
Nitric acid, aqueous	65	40	-
Nitrocellulose lacquer	solid	20	-
Nitroglycerol	100	20	-
Oils => fats, diesel oil, Lubricating oil and similar			
Oleum	10	20	-
Oxygen	all	60	+
Ozone		20	
Perchloric acid	all	20	o
Phenol, aqueous	all	20	o
Phosphoric acid, aqueous	100	20	-
PMMA (acrylic glass)	all	60	+
PMMA (acrylic glass)	Spec. additives		+
Potassium bichromate, aqueous	saturated	20	+
Potassium ferri- and ferrocyanide	all	60	+
Potassium persulphate, aqueous	saturated	40	+
Potassium salts, aqueous	all	60	+
Sea water		40	+



ProMinent® Chemical Resistance List

Corrosive agent	Concentration in %	Temperature in °C	Evaluation
Sea water		60	o
Silver nitrate	10	60	+
Soap solution	saturated	20	+
Soap solution	saturated	60	o
Sodium chloride, aqueous	all	60	+
Sodium hydroxide	aqueous	20	+
Sodium hydroxide, aqueous	4	40	+
Sodium hydroxide, aqueous	4	60	o
Sodium hydroxide, aqueous	50	40	o
Sodium hydroxide, aqueous	50	60	-
Sodium hypochlorite	15	20	o
Sodium salts => Sodium chloride (common salt)			
Stauffer grease	100	40	o
Sulphur dioxide, gaseous	all	40	o
Sulphuric acid	to 60	60	o
Sulphuric acid	98	20	-
Tetrachloromethane	100	20	-
Toluene	100	20	-
Transformer oil	100	40	o
Transformer oil	100	60	-
Trichloroethylene	100	20	-
Urea, aqueous	all	60	+
Urine		20	+
Water	100	20	+
Xylene	100	20	-
Zinc salts	all	60	+