

CHEMICAL RESISTANCE

CHEMICAL RESISTANCE TABLE

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Acetaldehyde	40	PVDF	0					
		PP						
		HDPE						
	100	PVDF	0					
		PP	••••					
		HDPE	••••					
Acetaldehyde and Acetic acid	90/10	PVDF	0					
		PP	••••					
		HDPE	••••					
Acetic acid aqueous	10	PVDF						
		PP						
		HDPE						
Acetic acid aqueous (glacial acetic acid)	min 96	PVDF		••••••				
		PP		••••••••				
		HDPE		••••••••				
Acetic acid-ethyl ester (ethyl acetate)	TR	PVDF	••••••••					
		PP	••••••••					
		HDPE	••••••••					
Acetic acid-methyl ester (methyl acetate)	TR	PVDF						
		PP						
		HDPE						
Acetic anhydrid	TR	PVDF	0					
		PP		••••••••				
		HDPE		••••				
Acetone	GL	PVDF	0					
		PP						
		HDPE						
Acetophenone	100	PVDF	0					
		PP						
		HDPE						
	TR	PVDF						
		PP		••••••••				
		HDPE						
Acrylic acid ethylic ester	100	PVDF	••••					
		PP						
		HDPE						
Acrylonitrile	TR	PVDF	••••					
		PP		••••				
		HDPE						
Adipic acid aqueous	GL	PVDF						
		PP						
		HDPE						
Air*	TR	PVDF						
		PP						
		HDPE						
Allyl alcohol (2-propen-1-ol)	96	PVDF						
		PP						
		HDPE						
Aluminium chloride	GL	PVDF						
		PP						
		HDPE						
Aluminium fluoride	GL	PVDF						
		PP						
		HDPE						
Aluminium sulphate	GL	PVDF						
		PP						
		HDPE						
Alums (metal(I)-and metal (III)-sulphates)	GL	PVDF						
		PP						
		HDPE						

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Ammonia gas	TR	PVDF				••••••••		
		PP						
		HDPE						
Ammonia liquid	TR	PVDF	0					
		PP						
		HDPE						
Ammonia solution aqueous (ammonia water)	33	PVDF	0					
		PP						
		HDPE						
Ammonia aluminium sulphate (ammonia alum)	L	PVDF						
		PP						
		HDPE						
Ammonia carbonate and ammonium hydrogen carbonate	GL	PVDF						
		PP						
		HDPE						
Ammonium chloride	GL	PVDF						
		PP						
		HDPE						
Ammonium iron (III) sulphate (iron alum)	L	PVDF						
		PP						
		HDPE						
Ammonium fluoride	L	PVDF						
		PP						
		HDPE						
Ammonium nitrate	GL	PVDF						
		PP						
		HDPE						
Ammonium phosphate	GL	PVDF						
		PP						
		HDPE						
Ammonium sulphide	L	PVDF						
		PP						
		HDPE						
Ammonium sulphate	GL	PVDF						
		PP						
		HDPE						
Amyl acetate	TR	PVDF						
		PP	••••					
		HDPE		••••				
Aniline hydrochloride aqueous	GL	PVDF						
		PP						
		HDPE						
Aniline pure	TR	PVDF						
		PP	••••••••					
		HDPE						
Anone	TR	PVDF						
		PP	••••••••					
		HDPE		••••				
Anthraquinone sulphone acid	GL	PVDF						
		PP						
		HDPE		••••••••				
Anti-freezers (motor vehicles)	H	PVDF						
		PP						
		HDPE						
Antimony chloride aqueous	90	PVDF						
		PP						
		HDPE						
Aqua regia (HCl/HNO2)	75/25	PVDF	••••					
		PP	0					
		HDPE	0					

* Compressed air is not recommended for any system except Air-Pro.

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Arsenic acid aqueous	80	PVDF						
		PP				••••••••		
		HDPE						
Barium carbonate	GL	PVDF						
		PP						
		HDPE						
Barium chloride	GL	PVDF						
		PP						
		HDPE						
Barium hydroxide	GL	PVDF	0					
		PP						
		HDPE						
Barium salts	GL	PVDF						
		PP						
		HDPE						
Barium sulphate	GL	PVDF						
		PP						
		HDPE						
Beater glue	H	PVDF						
		PP						
		HDPE						
Beer	H	PVDF						
		PP						
		HDPE						
Beer dye (sugar dye)	VL	PVDF						
		PP						
		HDPE						
Bees-wax	H	PVDF						
		PP		••••••••				
		HDPE			••••			
Benzaldehyde	GL	PVDF		••••••••••				
		PP						
		HDPE			••••			
Benzene	TR	PVDF		••••••••				
		PP	••••					
		HDPE	••••					
Benzine	H	PVDF						
		PP	••••					
		HDPE		••••••••				
Benzine - benzole mixture	80/20	PVDF						
		PP	••••					
		HDPE		••••••••				
Benzoic acid	GL	PVDF						
		PP						
		HDPE						
Benzoyl chloride	TR	PVDF		••••••••				
		PP	••••					
		HDPE		••••••~••••				
Benzyl alcohol	TR	PVDF		••••••••				
		PP		••••••~••••				
		HDPE			••••			
Bisulphite lye containing SO ₂	GL	PVDF						
		PP						
		HDPE						
Bleaching solution (sodium hypochloride)	20	PVDF	••••••~••••					
		PP	••••••~••••					
		HDPE	••••					
Boric acid aqueous	GL	PVDF						
		PP						
		HDPE						

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Borax, aqueous (sodium tetraborate)	GL	PVDF						
		PP						
		HDPE						
Bromine liquid	TR	PVDF						
		PP	0					
		HDPE	0					
Bromine fumes	TR	PVDF						
		PP	0					
		HDPE	0					
Bromine ⁵ (bromine water)	GL	PVDF						
		PP	••••					
		HDPE						
Butadiene gas	TR	PVDF						
		PP	••••					
		HDPE	••••					
Butane gas	TR	PVDF						
		PP						
		HDPE						
Butanediol aqueous	L	PVDF						
		PP						
		HDPE						
Butanediol	TR	PVDF						
		PP						
		HDPE						
Butanol (butyl alcohol)	TR	PVDF					••••	
		PP						
		HDPE						
1,2,4-Butanetriol	TR	PVDF						
		PP						
		HDPE						
2-Butene-1,4-diol	TR	PVDF						
		PP						
		HDPE						
Butindiol	TR	PVDF						
		PP						
		HDPE						
Butyric acid (and isobutyric acid)	TR	PVDF	••••••~••••					
		PP						
		HDPE			••••			
Butylacetate	TR	PVDF						
		PP	••••					
		HDPE	••••					
Butylene liquid	TR	PVDF						
		PP	••••					
		HDPE						
Butylene glycol (1,4-butanediol) aqueous	TR	PVDF						
		PP		••••~••••				
		HDPE						
Butylene glycol (ethylene glycol monobutyl ether)	TR	PVDF						
		PP						
		HDPE						
Butylphenol	GL	PVDF						
		PP						
		HDPE						
Butylphenone	GL	PVDF						
		PP						
		HDPE	0					
Butylphthalate (dibutylphthalate)	TR	PVDF						
		PP			••••~••••			
		HDPE			••••~••••			

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CHEMICAL RESISTANCE

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Calcium carbonate	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium chlorate	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium chloride aqueous	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium hydroxide	GL	PVDF	•••••	•••••	•••••	•••••	•••••	•••••
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium hypochlorite (chloride of lime), aqueous	L	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium nitrate aqueous	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium sulphate	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Calcium sulphide	VL	PVDF	_____	_____	_____	_____	_____	_____
		PP	•••••	•••••	•••••	•••••	•••••	•••••
		HDPE	•••••	•••••	•••••	•••••	•••••	•••••
Camphoric oil (Camphor oil)	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	0	_____	_____	_____	_____	_____
		HDPE	0	_____	_____	_____	_____	_____
Carbolineum	H	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Carbon monoxide gas	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Carbonic disulphide	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	0	_____	_____	_____	_____	_____
		HDPE	•••••	_____	_____	_____	_____	_____
Carbon dioxide gas	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Carbonic acid aqueous	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Carbonic acid dry	H	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Carbonic acid wet	H	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Castor oil	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Caustic Lye aqueous	50	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Caustic lye aqueous	L	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Caustic soda (sodium hydroxide)	60	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Chloroacetic acid (mono), aqueous	L	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chloroacetic acid (mono), aqueous	85	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chloral (trichloroacetaldehyde)	TR	PVDF	•••••	•••••	•••••	•••••	•••••	•••••
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chloral hydrate	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	•••••	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chloramine aqueous	L	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chlordiphenyl	H	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chloroethane (ethyl chloride)	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	0	_____	_____	_____	_____	_____
		HDPE	•••••	_____	_____	_____	_____	_____
2-Chlorethanol (ethylenechlorohydrin)	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chloric acid aqueous	1	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	•••••	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
	10	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	•••••	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
20	PVDF	_____	_____	_____	_____	_____	_____	
	PP	_____	_____	_____	_____	_____	_____	
Chloride or lime (slurry in water)	any	PVDF	_____	_____	_____	_____	_____	_____
		PP	_____	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chlorine liquid	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	0	_____	_____	_____	_____	_____
		HDPE	0	_____	_____	_____	_____	_____
Chlorine gas, wet	0.5	PVDF	•••••	•••••	•••••	•••••	•••••	•••••
		PP	•••••	_____	_____	_____	_____	_____
		HDPE	•••••	_____	_____	_____	_____	_____
	1	PVDF	•••••	•••••	•••••	•••••	•••••	•••••
		PP	0	_____	_____	_____	_____	_____
		HDPE	0	_____	_____	_____	_____	_____
Chlorine gas, dry	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	0	_____	_____	_____	_____	_____
		HDPE	•••••	_____	_____	_____	_____	_____
Chlorine water (chlorine)	GL	PVDF	_____	_____	_____	_____	_____	_____
		PP	•••••	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chlormethyl	100	PVDF	_____	_____	_____	_____	_____	_____
		PP	0	_____	_____	_____	_____	_____
		HDPE	_____	_____	_____	_____	_____	_____
Chlorobenzene	TR	PVDF	_____	_____	•••••	•••••	•••••	•••••
		PP	•••••	_____	_____	_____	_____	_____
		HDPE	•••••	_____	_____	_____	_____	_____
Chloroform (trichloromethane)	TR	PVDF	_____	_____	_____	_____	_____	_____
		PP	•••••	_____	_____	_____	_____	_____
		HDPE	•••••	_____	_____	_____	_____	_____

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Chloromethane (methylchloride gas)	TR	PVDF	—					
		PP	—					
		HDPE	••••					
Chlorosulphonic acid	TR	PVDF	—					
		PP	0					
		HDPE	0					
Chrome alum aqueous	GL	PVDF	—					
		PP	—					
		HDPE	—					
Chrome acid ⁴⁾ (chrome (VI)-oxide ⁴⁾ aqueous	20	PVDF	—					
		PP	—	••••••••				
		HDPE	—	••••				
	40	PVDF	—					
		PP	—	••••••••				
		HDPE	••••					
Chromosulphuric acid Chromic acid/sulphuric acid	15/35/50	PVDF	—					
		PP	0					
		HDPE	0					
Citric acid	GL	PVDF	—					
		PP	—					
		HDPE	—					
Citric acid aqueous	VL	PVDF	—					
		PP	—					
		HDPE	—					
Coconut butter alcohol	TR	PVDF	—					
		PP	—	••••••••				
		HDPE	—	••••••••				
Common salt aqueous	VL	PVDF	—					
		PP	—					
		HDPE	—					
Common salt (natrium chloride)	GL	PVDF	—					
		PP	—					
		HDPE	—					
Copper (II)-chloride	GL	PVDF	—					
		PP	—					
		HDPE	—					
Copper (II)-cyanide	GL	PVDF	—					
		PP	—					
		HDPE	—					
Copper fluoride aqueous	GL	PVDF	—					
		PP	—					
		HDPE	—					
Copper (II)-nitrate aqueous	30	PVDF	—					
		PP	—					
		HDPE	—					
Copper (II)-nitrate	GL	PVDF	—					
		PP	—					
		HDPE	—					
Copper (II)-sulphate	GL	PVDF	—					
		PP	—					
		HDPE	—					
Copper sulphate aqueous	GL	PVDF	—					
		PP	—					
		HDPE	—					
Cotton seed oil	TR	PVDF	—					
		PP	—					
		HDPE	—					
Cresol aqueous	<90	PVDF	—					
		PP	—					
		HDPE	—					

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Cresol aqueous	≥90	PVDF	—					
		PP	—					
		HDPE	—	••••••••				
Crotonaldehyde	TR	PVDF	—					
		PP	—					
		HDPE	—					
Cyanide of potassium (potassium cyanide)	L	PVDF	—					
		PP	—					
		HDPE	—					
Cyanide of potassium aqueous	GL	PVDF	—					
		PP	—					
		HDPE	—					
Cyclohexanol	TR	PVDF	—					
		PP	—					
		HDPE	—					
Cyclohexanone	TR	PVDF	—	••••••••				
		PP	—	••••••~				
		HDPE	—	••••••~				
Cyclohexane	TR	PVDF	—					
		PP	—					
		HDPE	—					
Decalin® (decahydro-naphthaline)	TR	PVDF	—					
		PP	—	••••				
		HDPE	—	••••••~				
Detergents	H	PVDF	—					
		PP	—				••••••~	
		HDPE	—					
Dextrine aqueous	L	PVDF	—					
		PP	—					
		HDPE	—					
Dextrose (starch sugar glucose)	20	PVDF	—					
		PP	—					
		HDPE	—					
1,2-Diaminoethane (ethylene diamine)	TR	PVDF	—					
		PP	—					
		HDPE	—					
Dibutyl phthalate	TR	PVDF	—					
		PP	—	••••••~				
		HDPE	—	••••••~				
Dichloroethane (vinylidene dichloride and vinylene dichloride)	TR	PVDF	—					
		PP	0					
		HDPE	0					
Dichloroethylene (11 and 12)	TR	PVDF	—					
		PP	0					
		HDPE	—					
Dichloroacetic acid aqueous	50	PVDF	—					
		PP	—					
		HDPE	—					
Dichloroacetic acid aqueous	TR	PVDF	—					
		PP	—	••••••~				
		HDPE	—	••••••~				
Dichloroacetic acid methyl ester	TR	PVDF	—					
		PP	—	••••••~				
		HDPE	—	••••••~				
Dichlorobenzene	TR	PVDF	—					
		PP	—	••••				
		HDPE	—	••••				
Diesel fuel	H	PVDF	—					
		PP	—	••••••~				
		HDPE	—	••••••~				

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Diethanolamine	TR	PVDF						
		PP						
		HDPE						
Diethyl ether (ethyl ether)	TR	PVDF						
		PP	••••••••					
		HDPE	••••••••					
Diglycolic acid aqueous	GL	PVDF						
		PP						
		HDPE						
Dibexylphthalate	TR	PVDF						
		PP		••••••••				
		HDPE		••••••••				
Diisobutyl ketone (2,6-dimethyl-4-heptanone)	TR	PVDF						
		PP						
		HDPE						
Diisooctyl phthalate	TR	PVDF						
		PP		••••••••				
		HDPE		••••••~				
Diisopropyl ether	TR	PVDF						
		PP	••••					
		HDPE		••••••~				
Dimethylamine gas	100	PVDF						
		PP						
		HDPE		••••••~				
Di-n-Butylether	TR	PVDF						
		PP	••••					
		HDPE	••••					
Dinonylphthalate (DNP)	TR	PVDF						
		PP		••••••~				
		HDPE		••••~				
Diocetylphthalate (DOP)	TR	PVDF						
		PP		••••~				
		HDPE		••••~				
1,4-Dioxan (diethylene dioxide)	TR	PVDF	••••					
		PP	••••~					
		HDPE						
Emulsions photographic	H	PVDF						
		PP						
		HDPE						
Enzyme mash	H	PVDF						
		PP						
		HDPE						
Ester	40	PVDF						
		PP	••••~					
		HDPE	••••~					
Ethanol (ethyl alcohol)	TR	PVDF		••••~				
		PP						
		HDPE						
Ethyl acetate	100	PVDF						
		PP		••••~				
		HDPE		••••				
Ethyl alcohol aqueous	96	PVDF						
		PP						
		HDPE						
Ethyl alcohol + acetic acid (enzyme compound)	H	PVDF						
		PP						
		HDPE						
Ethyl alcohol (enzyme mash)	H	PVDF						
		PP						
		HDPE						

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Ethyl alcohol methylated with Toluol 2%	96	PVDF						
		PP						
		HDPE						
Ethyl benzene	TR	PVDF	••••~					
		PP	••••					
		HDPE	••••					
Ethyl chloride gas (chloroethane)	TR	PVDF						
		PP	0					
		HDPE	0					
Ethylenechlorohydrin (chloroethanol)	TR	PVDF						
		PP						
		HDPE						
Ethylenediamine (1,2-diaminoethane)	TR	PVDF	••••~					
		PP						
		HDPE						
Ethylene glycol (1,2-ethanediol)	TR	PVDF						
		PP						
		HDPE						
Ethylene oxide gas (oxiran)	TR	PVDF						
		PP	0					
		HDPE						
Ethyl ether .	100	PVDF						
		PP	••••					
		HDPE	••••					
Exhaust gases containing SO ₂	VL	PVDF						
		PP						
		HDPE						
Exhaust gases containing carbon dioxide	any	PVDF						
		PP						
		HDPE						
Exhaust gases containing hydrochloric acid ¹⁾	any	PVDF						
		PP						
		HDPE						
Exhaust gases containing hydrogen fluoride	VL	PVDF						
		PP						
		HDPE						
Exhaust gases containing nitrogen	VL	PVDF						
		PP						
		HDPE						
Exhaust gases containing oleum	VL	PVDF	0					
		PP	0					
		HDPE	0					
Exhaust gases sulphuric acid wet	any	PVDF						
		PP						
		HDPE						
Fatty acids	100	PVDF						
		PP	••••~					
		HDPE		••••~				
Fertilizer salt	H	PVDF						
		PP						
		HDPE						
Fixing solutions photographic	H	PVDF						
		PP						
		HDPE						
Fluor gas, dry	TR	PVDF						
		PP	0					
		HDPE	0					
Fluorammonium aqueous	20	PVDF						
		PP						
		HDPE						

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CHEMICAL RESISTANCE TABLE

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Hydrogen sulphide gas, dry	TR	PVDF						
		PP						
		HDPE						
Hydrogen-hyposulphite aqueous	VL	PVDF						
		PP						
		HDPE						
Hydroquinone	L	PVDF						
		PP						
		HDPE		••••				
Hydroquinone	GL	PVDF						
		PP						
		HDPE		••••				
Hydroxylamine sulphate aqueous	≥12	PVDF						
		PP						
		HDPE						
Iodine, tincture	H	PVDF						
		PP		••••••				
		HDPE		••••				
Iron (II)-chloride	GL	PVDF						
		PP						
		HDPE						
Iron (III)-chloride	GL	PVDF						
		PP						
		HDPE						
Iron (III)-nitrate	L	PVDF						
		PP						
		HDPE						
Iron (II)-sulphate	GL	PVDF						
		PP						
		HDPE						
Iron (III)-sulphate	GL	PVDF						
		PP						
		HDPE						
Isobutanol	TR	PVDF						
		PP		••••••••••				
		HDPE						
Isobutyric acid	TR	PVDF	••••••••••					
		PP						
		HDPE		••••••••				
Isooctane	TR	PVDF						
		PP		••••••••				
		HDPE		••••••••				
Isopropyl alcohol	TR	PVDF						
		PP						
		HDPE						
Lactic acid	TR	PVDF						
		PP						
		HDPE						
Lactic acid aqueous	90	PVDF						
		PP						
		HDPE						
Lanolin (wool oil)	H	PVDF						
		PP		••••••••				
		HDPE		••••••••				
Lead acetate aqueous	GL	PVDF						
		PP						
		HDPE						
Lead tetraethyl (tetraethyl lead)	TR	PVDF						
		PP						
		HDPE						

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Light liquid paraffin	TR	PVDF						
		PP		••••••••				
		HDPE		••••••••				
Lighting gas	H	PVDF						
		PP						
		HDPE						
Linseed oil	H	PVDF						
		PP						
		HDPE						
Liquid ammonia (ammonia water)	GL	PVDF	0					
		PP						
		HDPE						
Magnesium carbonate	GL	PVDF						
		PP						
		HDPE						
Magnesium chloride aqueous	GL	PVDF						
		PP						
		HDPE						
Magnesium hydroxide	GL	PVDF						
		PP						
		HDPE						
Magnesium hydroxide carbonate	GL	PVDF						
		PP						
		HDPE						
Magnesium nitrate	GL	PVDF						
		PP						
		HDPE						
Magnesium salts	GL	PVDF						
		PP						
		HDPE						
Magnesium sulphate aqueous	GL	PVDF						
		PP						
		HDPE						
Maize seed oil	TR	PVDF						
		PP		••••••••				
		HDPE						
Malic acid aqueous	GL	PVDF						
		PP						
		HDPE						
Menthol	TR	PVDF						
		PP		••••••••				
		HDPE			••••			
Mercury	TR	PVDF						
		PP						
		HDPE						
Mercury (II)-chloride	GL	PVDF						
		PP						
		HDPE						
Mercury (II)-cyanide	GL	PVDF						
		PP						
		HDPE						
Mercury (II)-nitrate	L	PVDF						
		PP						
		HDPE						
Mercury salts	GL	PVDF						
		PP						
		HDPE						
Methane bromide (methyl bromide)	TR	PVDF						
		PP	0					
		HDPE	0					

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Methanol (methyl alcohol)	TR	PVDF	-----				
		PP	-----					
		HDPE	-----					
Methanesulphonic acid (methylsulphuric acid), aqueous	≥50	PVDF	-----					
		PP	.....				
		HDPE	-----					
	>50	PVDF	-----					
		PP	.....				
		HDPE	.....				
Methyl alcohol (methanol)	5%	PVDF	-----	.....			
		PP	-----					
		HDPE	-----					
Methylamine aqueous	32	PVDF	.....				
		PP	-----					
		HDPE	-----					
Methoxybutanol	TR	PVDF	-----					
		PP	-----	.....			
		HDPE	-----	.....			
Methoxybutyl alcohol	TR	PVDF	-----					
		PP	-----	.....			
		HDPE	-----					
Methylbenzoic acids (Toluene acids)	GL	PVDF	-----					
		PP	-----	.....			
		HDPE	.....				
Methyl bromide	TR	PVDF	-----					
		PP	0					
		HDPE	0					
Methyl chloride	TR	PVDF	-----					
		PP	0					
		HDPE	.....				
Methylene chloride (dichloromethane)	TR	PVDF	-----					
		PP	.....				
		HDPE	.....				
Methyl ethyl ketone	TR	PVDF	0					
		PP	-----	.....			
		HDPE	-----	.....			
Milk	H	PVDF	-----					
		PP	-----					
		HDPE	-----					
Mineral oil	H	PVDF	-----					
		PP	-----	.....			
		HDPE	-----	.....			
Mineral water	H	PVDF	-----					
		PP	-----					
		HDPE	-----					
Molasses	H	PVDF	-----					
		PP	-----					
		HDPE	-----					
Naptha	H	PVDF	-----					
		PP	-----					
		HDPE	-----					
Natural gas	TR	PVDF	-----					
		PP	-----					
		HDPE	-----					
N,N-Dimethylformamide	TR	PVDF	0					
		PP	-----					
		HDPE	-----	.....			
Nickel (II)-chloride	GL	PVDF	-----					
		PP	-----					
		HDPE	-----					

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Nickel (II)-nitrate	GL	PVDF	-----					
		PP	-----					
		HDPE	-----					
Nickel salts	GL	PVDF	-----					
		PP	-----					
		HDPE	-----					
Nickel (II)-sulphate	GL	PVDF	-----					
		PP	-----					
		HDPE	-----					
Nicotinic acid	VL	PVDF	-----					
		PP	-----					
		HDPE	-----					
Nitric acid aqueous	VL	PVDF	-----					
		PP	-----	.....			
		HDPE	-----					
	10-50	PVDF	-----					
		PP	.....				
		HDPE	.....				
>50 <85	PVDF	-----	.....				
	PP	0						
	HDPE	.....					
Nitrobenzene	TR	PVDF	-----					
		PP	-----	.....			
		HDPE	-----	.....			
Nitrous fumes ²⁾	GL	PVDF	-----					
		PP	.....				
		HDPE	.....				
2-Nitrotoluene	TR	PVDF	-----					
		PP	-----	.....			
		HDPE	-----	.....			
Octylcresole	TR	PVDF	-----					
		PP	.....				
		HDPE	-----	.....			
Oil of turpentine	TR	PVDF	-----					
		PP	0					
		HDPE	.....				
Oils essential	TR	PVDF	-----					
		PP	.....				
		HDPE	.....				
Oils, vegetable and animal	TR	PVDF	-----					
		PP	-----	.....			
		HDPE	-----	.....			
Oleic acid	TR	PVDF	-----					
		PP	-----	.....			
		HDPE	-----	.....			
Oleum (H ₂ SO ₄ + SO ₃)	TR	PVDF	0					
		PP	0					
		HDPE	0					
Oleum fumes	VL	PVDF	0					
		PP	0					
		HDPE	0					
	L	PVDF	0					
		PP	0					
		HDPE	0					
Oxalic acid aqueous	GL	PVDF	-----					
		PP	-----					
		HDPE	-----					
Oxygen	TR	PVDF	-----					
		PP	-----					
		HDPE	-----				

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CHEMICAL RESISTANCE

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Ozone gas ⁴⁾	0.5 ppm	PVDF	_____					
		PP	_____					
		HDPE	••••					
Paraffin emulsions	TR	PVDF	_____					
		PP	_____					
		HDPE	••••••••					
Paraffin oil	TR	PVDF	_____					
		PP	_____	••••••••				
		HDPE	_____	••••••••				
Peanut oil	TR	PVDF	_____					
		PP	_____					
		HDPE	_____					
1-Pentanol (n-amylalcohol)	TR	PVDF	_____				••••	
		PP	_____					
		HDPE	_____	••••				
2-Pentanol (sec-n-amylalcohol)	TR	PVDF	_____					
		PP	_____					
		HDPE	_____	••••				
Peppermint oil	TR	PVDF	_____					
		PP	_____					
		HDPE	_____					
Perchloric acid aqueous	20	PVDF	_____					
		PP	_____					
		HDPE	_____					
	50	PVDF	_____					
		PP	_____	••••••••				
	HDPE	_____	••••••~					
70	PVDF	_____						
	PP	••••						
HDPE	_____							
Perchloroethylene (tetrachloroethane)	TR	PVDF	_____	••••				
		PP	••••••••					
		HDPE	••••					
Petroleum	TR	PVDF	_____					
		PP	_____	••••••~				
		HDPE	_____	••••••~				
Petroleum ether	TR	PVDF	_____					
		PP	_____	••••••~				
		HDPE	_____	••••••~				
Phenol aqueous	5	PVDF	_____					
		PP	_____					
		HDPE	_____					
	90	PVDF	_____					
		PP	_____					
		HDPE	_____					
Phenylhydrazine	TR	PVDF	_____					
		PP	••••••~					
HDPE	••••••~							
Phenylhydrochloride	TR	PVDF	_____					
		PP	_____	••••••~				
		HDPE	_____					
Phosgene gas	TR	PVDF	_____					
		PP	••••••~					
		HDPE	••••					
Phosgene liquid	TR	PVDF	_____					
		PP	0					
		HDPE	0					
Phosphates inorganic	GL	PVDF	_____					
		PP	_____					
		HDPE	_____					

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Phosphoric acid aqueous	95	PVDF	_____					
		PP	_____	••••••~				
		HDPE	_____	••••••~				
	50	PVDF	_____					
		PP	_____					
		HDPE	_____					
Phosphoric acid (ortho-)	85	PVDF	_____					
		PP	_____					
		HDPE	_____					
Phosphorus (III) chloride	TR	PVDF	_____					
		PP	••••					
		HDPE	_____	••••••~				
Phosphorus oxychloride	TR	PVDF	_____					
		PP	••••					
		HDPE	_____	••••••~				
Phosphorus pentoxide	TR	PVDF	_____					
		PP	_____					
		HDPE	_____					
Phosphorus trichloride	TR	PVDF	_____					
		PP	_____					
		HDPE	_____	••••••~				
Photographic developing agents	H	PVDF	_____					
		PP	_____					
		HDPE	_____					
Phthalic acid	GL	PVDF	••••••~	••••••~				
		PP	_____					
		HDPE	_____					
Picric acid (2, 4, 6 trinitrophenole)	GL	PVDF	_____					
		PP	_____					
		HDPE	_____					
Pine needle oil	H	PVDF	_____					
		PP	_____	••••••~				
		HDPE	_____					
Potable water (chlorous)	TR	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium aluminium sulphate (potassium alum)	L	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium bicarbonate	GL	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium bisulphate	GL	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium hydrogen sulphite (potassium bisulphite)	L	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium borate aqueous	1	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium bromate aqueous	10	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium bromate	GL	PVDF	_____					
		PP	_____					
		HDPE	_____					
Potassium bromide aqueous	GL	PVDF	_____					
		PP	_____					
		HDPE	_____					

CHEMICAL RESISTANCE TABLE

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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Potassium carbonate (potash)	GL	PVDF	0					
		PP						
		HDPE						
Potassium chlorate	GL	PVDF	.....				
		PP						
		HDPE						
Potassium chloride aqueous	GL	PVDF						
		PP						
		HDPE						
Potassium chromate aqueous	GL	PVDF	....				
		PP						
		HDPE						
Potassium chrome (III) sulphate (chrome alum)	L	PVDF	....				
		PP						
		HDPE						
Potassium cyanide (cyanide of potassium)	L	PVDF						
		PP						
		HDPE						
Potassium dichromate aqueous	GL	PVDF						
		PP						
		HDPE						
Potassium ferricyanide and potassium ferrocyanide, aqueous	GL	PVDF						
		PP						
		HDPE						
Potassium fluoride	L	PVDF						
		PP						
		HDPE						
Potassium hexacyano ferrate (II) and (III) yellow and red prussiate	GL	PVDF						
		PP						
		HDPE						
Potassium hypochlorite	L	PVDF	....				
		PP	....				
		HDPE	.....				
Potassium iodide	GL	PVDF						
		PP						
		HDPE						
Potassium nitrate aqueous	GL	PVDF						
		PP						
		HDPE						
Potassium perchlorate aqueous	10	PVDF						
		PP						
		HDPE	.....				
	GL	PVDF	.....				
		PP						
		HDPE	.....				
Potassium permanganate aqueous	6	PVDF						
		PP						
		HDPE						
	20	PVDF						
		PP						
		HDPE						
Potassium peroxodisulphate (potassium persulphate)	GL	PVDF						
		PP	.....				
		HDPE						
Potassium phosphate	GL	PVDF						
		PP						
		HDPE						
Potassium sulphate	GL	PVDF						
		PP						
		HDPE						

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Potassium sulphide	L	PVDF	.....				
		PP						
		HDPE						
Potatoe spirit oil	TR	PVDF						
		PP						
		HDPE		....			
Propane gas	TR	PVDF	....				
		PP						
		HDPE						
Propane liquid	TR	PVDF	....				
		PP						
		HDPE	....				
Propionic acid aqueous	50	PVDF						
		PP						
		HDPE						
Propionic acid	TR	PVDF						
		PP						
		HDPE	.....				
Propanol-(1) (propyl alcohol)	TR	PVDF						
		PP						
		HDPE						
Propargyl alcohol aqueous	7	PVDF						
		PP						
		HDPE						
Propylene glycol	TR	PVDF						
		PP						
		HDPE						
Pyridine	TR	PVDF						
		PP	.....				
		HDPE	.....				
Roaster dry	any	PVDF						
		PP						
		HDPE						
Salicylic acid	GL	PVDF						
		PP						
		HDPE						
Sea water (lake water)	H	PVDF						
		PP						
		HDPE						
Silicic acid aqueous	H	PVDF						
		PP						
		HDPE						
Silicone emulsion	H	PVDF						
		PP						
		HDPE						
Silicone oil	TR	PVDF						
		PP						
		HDPE						
Silver acetate	GL	PVDF						
		PP						
		HDPE						
Silver cyanide	GL	PVDF						
		PP						
		HDPE						
Silver nitrate aqueous	GL	PVDF						
		PP					
		HDPE						
Silver salts	GL	PVDF						
		PP						
		HDPE						



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Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Soaps aqueous	GL	PVDF						
		PP						
		HDPE						
Soda (sodium bicarbonate)	50	PVDF						
		PP						
		HDPE						
Soda lye (sodium hydroxide) aqueous	40	PVDF	0					
		PP						
		HDPE						
	60	PVDF	0					
		PP						
		HDPE						
Sodium acetate	GL	PVDF						
		PP						
		HDPE						
Sodium benzoate	GL	PVDF						
		PP						
		HDPE						
Sodium benzoate aqueous	35	PVDF						
		PP						
		HDPE						
Sodium borate hydrogen peroxide (sodium perborate)	GL	PVDF						
		PP						
		HDPE	.....				
Sodium bromide	GL	PVDF						
		PP						
		HDPE						
Sodium carbonate	GL	PVDF						
		PP						
		HDPE						
Sodium carbonate aqueous	50	PVDF						
		PP			.....		
		HDPE						
Sodium chlorate aqueous	GL	PVDF	.....				
		PP						
		HDPE						
Sodium chlorite aqueous	2-20	PVDF						
		PP	.....				
		HDPE						
Sodium cyanide	GL	PVDF						
		PP						
		HDPE						
Sodium dichromate	GL	PVDF						
		PP						
		HDPE						
Sodium fluoride	GL	PVDF						
		PP						
		HDPE						
Sodium hexacyanferat (II) (sodium ferrocyanide)	GL	PVDF						
		PP						
		HDPE						
Sodium hexacyanferat (III) (sodium ferrocyanide)	GL	PVDF						
		PP						
		HDPE						
Sodium hexametaphosphate	L	PVDF						
		PP						
		HDPE						
Sodium hydrogen carbonate (sodium bicarbonate)	GL	PVDF						
		PP						
		HDPE						

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Sodium hydrogen sulphate	GL	PVDF						
		PP						
		HDPE						
Sodium hydrogen sulphite (sodium bisulphite)	L	PVDF						
		PP						
		HDPE						
Sodium hypochlorite aqueous	10	PVDF	.....				
		PP						
		HDPE						
	20	PVDF	.....				
		PP						
		HDPE						
Sodium hypochlorite (bleaching lye) 15% act Cl ₂ , aqueous	L	PVDF	0					
		PP	....				
		HDPE	....				
Sodium nitrate	GL	PVDF						
		PP						
		HDPE						
Sodium nitrite	GL	PVDF						
		PP						
		HDPE						
Sodium phosphate (-tri-)	GL	PVDF						
		PP						
		HDPE						
Sodium silicate (water glass)	L	PVDF						
		PP						
		HDPE						
Sodium sulphate	GL	PVDF						
		PP						
		HDPE						
Sodium sulphide	GL	PVDF	.....				
		PP						
		HDPE						
Sodium sulphide aqueous	40	PVDF						
		PP						
		HDPE						
Sodium tetraborate (borax)	L	PVDF						
		PP						
		HDPE						
	GL	PVDF						
		PP						
		HDPE						
Sodium thiosulphate	GL	PVDF						
		PP						
		HDPE						
Soybean oil	TR	PVDF						
		PP	.....				
		HDPE	.....				
Spindle oil	TR	PVDF						
		PP	.....				
		HDPE	.....				
Spirits of all kinds	H	PVDF						
		PP						
		HDPE						
Starch syrup	any	PVDF						
		PP						
		HDPE						
Starch aqueous	any	PVDF						
		PP						
		HDPE						

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CHEMICAL RESISTANCE

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Starch sugar (glucose), aqueous	GL	PVDF						
		PP						
		HDPE						
Stearic acid	TR	PVDF						
		PP	••••••••					
		HDPE	••••••••					
Succinic acid	GL	PVDF						
		PP						
		HDPE						
Sulphur dioxide aqueous	any	PVDF	0					
		PP						
		HDPE						
Sulphur dioxide wet and aqueous	any	PVDF	0					
		PP						
		HDPE						
Sulphur dioxide, gas dry	any	PVDF						
		PP						
		HDPE						
Sulphur trioxide	TR	PVDF	0					
		PP	0					
		HDPE	0					
Sulphurous acid aqueous	any	PVDF	0					
		PP						
		HDPE						
Sulphuryl chloride (sulphonyl chloride)	TR	PVDF						
		PP	0					
		HDPE	0					
Sulphuric acid	TR	PVDF						
		PP	••••					
		HDPE	••••••••					
Sulphuric acid aqueous	VL	PVDF						
		PP						
		HDPE						
	10-50	PVDF						
		PP						
		HDPE						
Tallow	TR	PVDF						
		PP						
		HDPE						
Tannic acid (tannin) aqueous	10	PVDF						
		PP						
		HDPE						
Tanning extracts of cellulose	H	PVDF						
		PP						
		HDPE						
Tanning extracts vegetable	H	PVDF						
		PP						
		HDPE						
Tartaric acids aqueous	H	PVDF						
		PP						
		HDPE						
Test benzene	TR	PVDF						
		PP		••••••••				
		HDPE		••••				
Tetrachloroethane	TR	PVDF	••••••••••••••					
		PP	••••					
		HDPE	••••					
Tetrachloroethene (perchloroethylene)	TR	PVDF						
		PP	••••••••••					
		HDPE	••••••••					

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Tetrachloromethane	TR	PVDF						
		PP	0					
		HDPE	0					
Tetrahydrofuran	TR	PVDF	••••••••••					
		PP	••••					
		HDPE	••••••••					
Tetralin (tetrahydronaphthalene)	TR	PVDF						
		PP	0					
		HDPE	••••					
Tin (IV)-chloride	GL	PVDF						
		PP						
		HDPE						
Tin (II)-chloride	GL	PVDF						
		PP						
		HDPE						
Thionyl chloride	TR	PVDF	••••••••••					
		PP	0					
		HDPE	0					
Thiophene	TR	PVDF						
		PP		••••••••				
		HDPE	••••					
Toluene	TR	PVDF						
		PP	••••					
		HDPE	••••					
Transformer oil (insulating oil)	TR	PVDF						
		PP		••••				
		HDPE		••••••••				
Trichloroacetic acid aqueous	50	PVDF						
		PP						
		HDPE						
Trichloroethylene (trichloroethene)	TR	PVDF						
		PP						
		HDPE	••••					
Tricresyl phosphate	TR	PVDF						
		PP		••••••••				
		HDPE						
Trietanolamine	L	PVDF						
		PP						
		HDPE					••••	
Trioctyl phosphate		PVDF						
		PP						
		HDPE					••••	
Urea aqueous	L	PVDF						
		PP						
		HDPE						
	GL	PVDF						
		PP						
		HDPE						
Urine		PVDF						
		PP						
		HDPE						
Vinegar (wine vinegar)	H	PVDF						
		PP						
		HDPE						
Vinyl acetate	TR	PVDF						
		PP		••••••••				
		HDPE		••••••••				
Vinylidene chloride (1, 1-dichloroethylene)	TR	PVDF						
		PP	0					
		HDPE	0					

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CHEMICAL RESISTANCE

CHEMICAL RESISTANCE TABLE

Medium	Concentration	Material	Temperature ° F					
			68	104	140	176	212	248
Water pure	H	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Wines and spirits (sodium benzoate)	H	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Wine vinegar (edible vinegar)	H	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Xylene (all isomers)	TR	PVDF	—	—	—	—	—	—
		PP	0	—	—	—	—	—
		HDPE	•••••	—	—	—	—	—
Yeast	GL	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Yeast bitter	H	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Zinc carbonate	GL	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Zinc chloride aqueous	GL	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Zinc oxide	GL	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Zinc salts	GL	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—
Zinc sulphate aqueous	GL	PVDF	—	—	—	—	—	—
		PP	—	—	—	—	—	—
		HDPE	—	—	—	—	—	—

Symbols:

1. Penetration of HCl possible
2. Oxidizing
3. Penetration of HF possible
4. Medium might cause stress cracking
5. Penetration of HBr possible
6. PVDF requires UV protection